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Original Articles.

ON THE INDEPENDENCE OF THE LOCAL VENEREAL DISEASES.

BY BRANSFORD LEWIS, M. D., ST. LOUIS.*

A few days ago, before coming to Henderson, I learned that my friend, Dr. Lydston would read a paper on "The Evolution of the Local Venereal Diseases," and having some notions on the subject which I knew, from certain writings of Dr. Lydston,† to be in opposition to his own, I thought I could probably present them to better advantage, and with less consumption of time, from manuscript than in oral discussion.

It has finally been settled, I believe, that the "world do move." But verily, it doth move in a circle—in its opinions, as well as in its orbit. As an instance of this, I have only to recall to your minds the fact that centuries ago, the distinction was universally made between chancroid and gonorrhœa (syphilis probably being unknown at that time). When syphilis made its *debut* into society in the fifteenth century, the distinction between the three was at first adhered to; then, confused by the similarity of the manifestations of the infecting and local sores, chancre and chancroid were considered the same; and finally, amazed and distracted at its destructiveness and ubiquity, as a sort of propitiation to the god Syphilus, I suppose, gonorrhœa was thrown in and all called syphilis. And when it was found that mercury was a remedy capable of coping successfully with the latter disease, it was given right and left for gonorrhœa, chancroid, syphilis, herpes, and all other affections of the generative organs. Starting over again, after a few hundred years, by a gradual process of argumentation, investigation, and deduction—the Darwinianism of pathology—gonorrhœa was first rescued from the trinity, after which, by further efforts persistent and courageous, the other two were separated and recognized in what was thought to be, their true colors.

Are we now again to return to the old starting point, and wrestle with the belief that gonorrhœa, chancroid, chancre, herpes,‡ etc., are interchangeable—are merely different phases of the same disease, whose connecting link is a metamorphosis of their microbic factors? Must we believe that it is only this trivial biological transformation that bridges over the chasm that has been considered as dividing so effectually and irreconcilably these diseases?

Let us see.

It is said that inoculation of gonorrhœal pus produces chancroid; and that inoculation (into the urethra) of chancroidal pus produces gonorrhœa: *ergo*, these are interchangeable.

Elsewhere§ it is claimed, in substance, that inoculation of chancroid produces chancroid; that inoculation of irritated chancre produces chancroid: *ergo*, chancroid is but a manifestation of chancre under peculiar conditions.

Lucky is the man, then, who is so favored by fortune as to receive only the chancroidal phase of the contagion!

The basis of the whole argument is the supposition that, through the influence of various conditions and circumstances, the organisms which cause these several processes may be so modified as to change the character of their product; chameleon-like, they alter their color to suit surroundings and conditions. The proof of this is offered in the effects of inter-inoculation, and in cases from practice in which gonorrhœa and chancroid are apparently begotten by virtuous women incapable of giving a *venereal* disease, or by filthy women who lacked the disease itself.

Although Dr. Lydston does not try to show any such relation between chancre and chancroid, he might with equal propriety do so. For inoculation with the inflammatory products of a chancre which has been irritated by various means, produces a corroding ulcer which resembles chancroid so closely that it cannot be distinguished from one. And in such cases syphilis may not, and frequently does *not*, follow as a result of the inoculation. Indeed, an able writer‖ maintains, by a well-prepared argument, that such is really the origin of chancroid—that it is but a sequel of a syphilitic inoculation that suppurates.

In the first place, a claim of this sort must necessarily carry with it the admission that there is a pathogenic *gradation* between these several forms, let us say, of the same disease,—

*Read before the Mc Dowell Medical Society, Nov. 11, 1889.

† "Gonorrhœa," MEDICAL AGE, Oct. 10th 1889.

‡ Otis, "Genito-Urinary Diseases."

§ "On the Nature of Chancroid," Dr. W. A. Hardaway, St. Louis Courier of Medicine.

‖ Ibid.

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a gradation between chancroid and gonorrhœa, and a gradation between chancroid and irritated chancre; a gradual merging of the one into the other. The writer last referred to, calls attention to the belief of some, himself among the number, that horse- and cow-pox are but modifications of small-pox; and says that, "It only remains to add that the researches of Pasteur on the attenuated viruses lends the strongest scientific support to the results of chemical experience." If we study Pasteur's experience with attenuated virus, we will see that the virus, in its different strengths, manifests a gradation of effects, all the way from death to simple protection from future inoculation, or even no effect at all. There *is* an evolution from malignant to virulent, and from virulent to benignant; and the same graded changes may be brought about in the reverse order. But in all these various manifestations we can trace a marked family resemblance. It is the same disease,—only the question of intensity of virulence marking their dissimilarity.

That Dr. Lydston endeavors to have the phenomena as presented by these pathological sequences, to which he refers, conform to universal rule, is readily seen when he says:* "The bacteria that develop in filthy sewers take on changes that result in qualities characterized by a greater degree of virulency than that possessed in their progenitors in the outer world, and when transplanted to a new location, again develop by procreation a new and slightly modified bacterial form, and this product is still more virulent."

I confess that, if we were to pursue the subject no further than the simple discovery or acknowledgment that inoculation of chancroidal matter will produce urethritis, and inoculation of gonorrhœal matter will produce contagious ulcers, the claim for the existence of the family resemblance might still be maintained, and the inter relationship might seem to be very close. And were we likewise to say simply that chancre and chancroid are interchangeable to the extent mentioned, *their* close relationship would appear to be sustained. But when we think of the enormous difference between these two processes of systemic infection, and possible life long continuation on the one hand, and strictly local manifestations of a more or less transient duration on the other, we cannot reconcile this with any known laws of evolution. There is no family resemblance here; no mere difference in the intensity of the attack. There is a radical difference in the *nature* of the two. This, I think, Dr. Lydston will admit. So that the definite differentiation between these affections is arrived at by observing the difference in their course and ultimate effects; and the apparent resemblance, and the inoculatory relationship spoken of, go for naught. It is on this score, then, that we must pursue the argument,—especially if we rob the gonococcus of his pathological personality, as Dr. Lydston evidently tries to do.

I would first call attention to the marked difference in the incubation period of the two, chancroid having practically none, beginning its ulcerative action immediately it is deposited, while that of gonorrhœa is generally from three to five days, and may be as long as ten or twelve. From the nature of the parts, we would expect just the reverse; that the infection would occur much more quickly on the tender mucous surface than through the tough skin.

The difference in the susceptibility of animals to inoculation with products of the two diseases, forms an essential and material objection to any family relation between them. Chancroid is readily inoculable on them; gonorrhœa not at all. If the gonorrhœal infection is so readily transmissible as chancroid, for instance, in a single intercourse, as Dr. Lydston would have us believe when he says that leucorrhœal or filthy discharges from a non-venereal female may give rise to herpes and chancroid (stages of the same process) in the male, how will he account for those cases in which chancroids exist behind a tight prepuce, and spread and suppurate, corroding the tissues of the glans penis, and there yet be no urethritis, or at least only so slight that it diappears on removal of the foreskin? Here, surely, may be found all of the elements invoked by him as explanatory of many urethrites, viz., suppuration, filth, decomposition of the worst degree, confinement with increasing virulency of the products, and continuous bathing of the lips of the meatus with this acrid secretion. And yet there may be no inflammation of the urethra at all!

On the other hand, it is not uncommon for gonorrhœal pus, pent up by a tight prepuce, to produce nothing worse than a diffuse balanitis—an affair very different from corroding chancroidal ulceration.

Again, suppose we admit the Doctor's assertion that chancroid of the urethra produces urethritis, we do not for a moment suppose he will maintain that such a urethritis will present the characteristics of gonorrhœal urethritis, for we find him expressing himself thus: "Strange to say, true ulcerations of the urethra never result from gonorrhœa *per se*, but from chemical or traumatic urethritis, and are found behind the obstruction in certain old cases of stricture." And yet we know that chancroids of the urethra do produce ulcers of its membrane. So, from the Doctor's own words, we reject such a urethritis as having any weight in proving the alleged relationship

* "Gonorrhœa," MEDICAL AGE, October 10, 1889.

between chancroids and clap. Were this relation a fact, urethral chancroid instead of being a rarity, would be a common incident of practice.

Again, experimentation has shown that the infecting element of chancroid resides in the pus-globule; but researches for the purpose of disclosing anything further than this regarding the virus, its form, its nature, or its appearance, have ever been in vain. Indeed, inoculations, *except with the pus-globule*, have always proved fruitless. But is this true of gonorrhœa? Not by any means. So far from investigators resting content with the discovery that its contagious agent resides in the pus-corpuscle, they have gone further and discovered, described, cultivated, and inoculated on virgin soil this morbific agent itself, stripped of all material that might in any way carry with it a virus; and above all, such inoculations from pure cultures, of even the twentieth generation, have borne fruit in as beautiful and typical gonorrhœas as one could desire.—And never a chancroid was produced by such an inoculation, either.

We are forced, then, to believe that there is a real and material difference between true gonorrhœa and true chancroid; that if one is disinclined to put faith in the interpretation of the microscope, the clinical panorama yet remains as a guide to a reliable differentiation between the two.

1006 Olive St.

GRAVE CEREBRAL DISORDERS FOLLOWING THE RAPID DISAPPEARANCE OF A CHRONIC ECZEMA.*

BY DR. L. BROCQ, PARIS, FRANCE.

In the British Journal of Dermatology, Feb., 1889, I published an article on the grave symptoms which may follow the suppression of a chronic cutaneous eruption. I have occasion to-day to reiterate with even more emphasis what I then said.

The notion that it will not do to cure a chronic skin disease for fear of visceral complications, was formerly pretty firmly rooted in medical minds; older practitioners at the present day are inclined to act on this belief—sometimes, it is true, because they do not know how to treat the eczema. Since modern researches, and especially since the labors of the school of Vienna have brought into vogue another view, there is scarcely a young practitioner, well posted in the tenets of the dermatology of to-day, who hesitates to attempt the suppression of eczematous rashes, or who fears the ill-consequences formerly apprehended from such suppression.

* Read before the Society of Practical Medicine, Session Oct. 29th, 1889.

While inclined to sympathize with the more recent therapeutic teachings, I cannot yet accept them without many reservations. It is doubtless true that in the far greater number of cases there is no warrant for the old doctrine, and the physician may treat his cases fearless of visceral accidents. Nevertheless, it is a common thing, in gouty and rheumatic patients sufferings from chronic eczema, to see articular swellings and congestive attacks affecting the lungs, the digestive tube, the liver, the kidneys, after the disappearance of an eczema. Facts of this sort have been known in all ages; you will find them in ancient and modern writings. In my own experience as a dermatologist, I have witnessed several cases of the kind. We know, too, that cerebral congestions may supervene under similar circumstances. The following case, occurring in my practice, is of interest as illustrating what I have just said:

M. X., aged 50 years, offspring of rheumatic parents, of vigorous constitution, came under my care in May, 1888. Had never had any grave disease. From the age of 18 years to the age of 44 years he had been subject to attacks of asthma which were quite intense, and frontal and occipital neuralgia. Was an inveterate smoker; melancholic tendencies marked.

Since the age of 42 (in 1882) an eczematous eruption of intensely pruriginous character had appeared on the genitals and around the anus; the sites of the eruption were continually invaded by severe inflammatory attacks.

The advent of the eczema coincided with complete disappearance of the paroxysms of asthma. I had known M. X. for six years, during which he had the eruption, though only as a casual medical advisor; had never examined the rash. He had frequently assured me that he was afraid to heal his eczema, lest his asthma should come back. To moderate the intolerable itching, which kept him awake much in the night, I had advised carbolic lotions; the parts which were the seat of the eruption to be dusted with a powder consisting of bismuth and oxide of zinc, of each 1 part, pulverized talc 5 parts. Diet to be very plain.

Since 1886, M. X. had experienced an increase of his melancholy; his morbid state was complicated with vesical troubles, with dysuria, sometimes even with strangury. Lastly, he had from time to time occipital and frontal neuralgias which lasted about a day and a half or two days, as had been the case previous to 1882.

In May, 1888, the eczema of the genitals had increased, and the itching had become so intense that M. X. decided to undergo examination and be treated for his ailment.

I observed that the entire scrotum, the perineum, the circumference of the anus, the inter-

gluteal fissure, and the adjacent parts of the hips and thighs, were the seat of an oözing eczematous eruption, with intense redness and thickening of the derm, and deep cracks and excoriations the result of scratching. I counselled lotions of chamomile tea, medicated with a little Goulard's extract; afterwards lotions of carbolic acid, 1 per cent.; then an ointment consisting of oxide of zinc 3 grammes, hydrochlorate of cocaine and hydrochlorate of morphia, of each 25 centigrammes, vaselin 25 grammes. Over this ointment I directed him to dust a little of the powder of zinc oxide and bismuth, of each 1 part, pulverized talc 5 parts.

The patient was directed to cover all the diseased surfaces with fine old linen to prevent friction, and to keep the whole in place by wearing bathing drawers. At the end of three days the improvement was so great that I was able, in preparing the ointment, to substitute half a gramme (7½ grains) of phenic acid for the cocaine and morphine.

The itching disappeared almost immediately, and the patient was so well pleased with the result that, despite my advice, he continued to follow out the treatment, and by the end of the month the eczematous lesion had disappeared.

At this time M. X. departed for Capvern, in order to be treated for his bladder troubles. From the time of his arrival in that city, he was taken with atrocious occipital neuralgic pains, which were aggravated at certain periods of the day, especially in the morning, but which were continuous. He remained 21 days at Capvern, going from bad to worse. June 22d he left Capvern, and after a long journey by rail, in very hot weather, arrived in Paris. I found him completely changed: he was emaciated, exhausted; he had a tottering gait; a certain tendency to go backward; involuntary emission of urine; loss of the patellar reflexes; diplopia; intolerable neuralgic pains in the back of the head; and already, confusion of memory and ideas.

Being very anxious about the case, I asked Dr. Rigal to examine the patient with me. He thought that there might be a cerebral tumor; saw no reason to regard the case as syphilitic. For treatment, we tried for three weeks, quinine in large doses, aconitia, antipyrin, bromide and iodide of potassium; none of these medicines produced the least benefit. The patient grew weaker from day to day; was continually nauseated and unable to take food. August 5th, 1888, his state was deplorable: he could hardly stand erect; he staggered like a drunken person; his urine dribbled from him without his knowledge, and his bowels were obstinately constipated; there was a little inequality of the pupils, and marked visual disturbances; the tongue was tremulous, the reflexes abolished, the memory lost. The patient was in a state of continual delirium, and did not even recognize his attendants. The greater part of the time he was in a state of stupor, interrupted now and then by occipital pains, of which he bitterly complained.

I called Dr. Ballet in consultation. The latter declared that the symptoms presented by the patient corresponded to no well defined morbid type; that the most plausible hypothesis was that of a tumor at the base of the brain, or in the cerebellum, but that he (Dr.B.) regarded the state as very grave, and death as almost certain in the near future. Despite this unfavorable opinion, I had a strong impression that the train of morbid symptoms above-described, which had followed the disappearance of an eczema, must have some casual connection with such suppression, and that there was an indication for revulsive treatment. August 25th, we applied a blister to the back of the neck, and dressed the vesicated surface with staves-acre ointment. The good effect was immediate; the next day the patient was better; the intelligence was a little clearer; the occipital pains less severe. This improvement continued during the next six days, while the blister was suppurating. Then the condition remained stationary; a second blister was applied and dressed with unguentum cantharidis. A violent eczematous inflammation broke out in the neighboring regions, which became very itchy; then the improvement became more rapid. The second blister having healed, we tried a few punctiform cauterizations on the back of the neck; these, however, did little good. We decided then to make a sore on the nucha with Vienna paste. During the first week of the cauterization, the patient still complained of some occipital pain, but when the eschar was detached and suppuration established, the pains abated. Subsequently the eczema reappeared. About the 15th of October, 1888, the rash was well out; the itching was severe, extending to the hips and thighs. From this time forth, all the cerebral symptoms disappeared, and at this date, October 23d, 1889, memory and intelligence are normal. His gait is also natural, and he can take long walks without fatigue. He has also recovered his usual weight, and what is also singular, his headache and urinary troubles have disappeared; but the eczema and the attendant prurigo were never so distressing as at present.

In one of his clinical conferences, delivered at the Hopital Saint Louis, Dec. 10, 1887, Dr. E. Besnier said that he had seen grave cerebral affections appear after the cure of an eczema. But these accidents are not sufficiently known, and have never been treated with that fullness of detail which their importance demands.

It is certain that clinical examples abound which prove the reality of this substitutive

action of eczema in subjects predisposed by their constitution to certain visceral affections. The eczema acts then as a revulsive, as a derivative, as a sort of emunctory. It may be the sole morbid expression of a diathesis, and if it is suppressed, or if it disappears spontaneously, this diathesis manifests itself by fluxions to other parts. The preceding observation proves this clearly enough. We there see, in fact, an asthmatic patient, who no longer suffers from his asthma when an eczema appears on his genitals; we have the substitution of one diathetic manifestation for another diathetic manifestation; a sort of derivation made to another part of the economy. Still later, we have an instance of the same kind when the cerebral accidents followed the disappearance of the eczema. Lastly, against the cerebral accidents, the vesicatories, the cautery, and the pruriginous eczema, acted as violent revulsives at first, then as derivatives, and little by little the discharging sores which followed the cautery, and the eczema, took the place of the cerebral manifestations.

This case teaches us, moreover, that whenever we have before us a patient presenting cerebral or other visceral accidents of rather unusual form, it will be well to inquire with care into the antecedents of the patient, and if, by change, these morbid phenomena have developed after the disappearance of a dermatosis, it will not do to formulate too gloomy a prognosis; and we should promply resort to treatment by revulsives which may give in these cases unhoped-for results. If, then, the dermatosis should be reproduced, bringing with it the disappearance of the internal troubles, it will be henceforth prudent to respect the cutaneous eruption.

In the discussion that followed the reading of the foregoing paper, general agreement was expressed with the views of the reader. One speaker thought eczema to be a manifestation of arthritism. The blood is super-saturated with acid (uric?), hence, the alkaline treatment is indicated. He had seen these gouty or arthritic dermatoses disappear under the free use of Vichy water at the sources; no untoward sequelæ followed; he did not hesitate to suppress an itching eruption after the judicious administration of alkalies. Another speaker did not think that it was ever prudent to dry up chronic eczematous rashes in nursing children till after suitable constitutional treatment. He has seen severe bronchial troubles in children follow the disappearance of rashes.

Dr. Brocq, in summing up, said that he did not believe that all eczemas were "acid" or congestive. Certain are so, and demand internal treatment; others are altogether external, do not depend on a constitutional cause, and do not need internal treatment. It must be admitted that some bad cases of eczema are due solely to a defect of nutrition, and get well on an improvement in diet, and on cod-liver oil.

The following case from Professor Grancher goes to show that not all chronic eczematous eruptions are dependent on arthritism:

"A Guiana gentleman consulted the greater number of European dermatologists for an eczema of long standing which covered his face with a veritable mask of vesico-pustules, and extended to his arms. Various modes of treatment brought no relief. Certain topical applications ameliorated the condition of the arm to a certain degree, but the facial eruption remained stationary. We found a special predisposing cause in his antecedents unless a period of severe mental and physical labor which preceded the appearance of the malady had something to do in the matter as an exciting cause. At all events the trouble continued so obstinately, that when I met him he was actually contemplating suicide. Cod-liver oil in large doses was prescribed, and the patient was soon able to take 12 teaspoonsful a day. A month later there was considerable amelioration of the trouble, and two months afterward the cure was complete. The patient has continued well for a long time, and compensates for the defect in his nutrition by taking a certain quantity of cod-liver oil from time to time. The interest in the case centres wholly in the fact that it was cured by internal nutritive medication, and it is impossible not to see in it a demonstration that skin diseases are not local maladies so often as is supposed. Most of them are referable to a defect in nutrition, and get well when that defect is remedied.

The fact should be considered as settled that the disease called eczema, is a group of diseases of various characteristics. Some of them are known to be contagious, for instance, and are often transmitted by toilette articles. Treatment in these diseases should be varied, and directed with due regard to the cause which excite them."

ON THE PRETENDED BACILLUS OF MALARIA OF KLEBS.

BY DR. CAMILLE GOGLI.*

To-day, most authors are open to admit as proven, the existence of the plasmodium malariæ, discovered by Laveran; and they now think little of the bacillus malariæ which Klebs and Tommasi-Crudeli had considered as the cause of malaria. Dr. Schiavuzzi, nevertheless, has found it in the air of districts where this malady prevails, and has not abandoned the theory of Klebs, but has, even within a year, published a new memoir in which he seeks to establish that the bacillus is really the cause of the malady in question. For this he relies on:

1. In that, inoculated experimentally in rabbits, it communicates to them a fever similar to that observed in man.

2. In that, the various forms of the parasite of Laveran were nothing more than simple alterations of the blood globules which one would find always in inoculated animals.

Golgi, who has procured some authentic cultures of bacillus malariæ, has taken up the experiments of Schiavuzzi, and has reached conclusions absolutely contrary, in the work which we cite. Golgi demonstrates, first, that

* Translated from the Annales de Micrographie by Andrew W. Imrie, M. D.

the intermittent temperatures secured by Schiavuzzi in the animals he experimented upon, have nothing characteristic. He finds in fact the same elevations and diminutions of temperature in rabbits inoculated with inoffensive microbes, and even in the blood of healthy rabbits in which nothing has been inoculated at all, assertions which he sustains by numerous examples.

As to the alterations of the blood produced by this bacillus, and which one would have mistaken, according to Schiavuzzi, for a special micro-organism, Golgi shows that they differ entirely from the evolutive forms presented by the parasite discovered by Laveran and studied carefully by Marchiafava, Celli and himself. The same may be said of the alterations in the blood which can be produced artificially, as shown by Masso and Maraglino.

We remember that these investigators found in blood which had remained three days in the abdominal cavity of a chicken, or simply incased in paraffine, alterations corresponding, according to them, to the different forms of the plasmodium malariæ. Here, also, the author shows there exist differences very marked between these alterations and the true parasite of malaria.

Golgi, concludes, then, from his experiments, that the pretended bacillus malariæ of Klebs, Tommasi-Crudeli, and Schiavuzzi, has nothing to do with paludal infection.

URIC ACID DIATHESIS.

BY JOS. ADOLPHUS, M. D., ATLANTA, GA.

The source of uric acid is the stomach and liver—impaired digestion, whether it be too slow or from defective peptogenic functions. When too slow in the stomach process, a large part of the proteid food is converted into parapeptone, which, entering the duodenum, is split up into leucin tyrosin by the trypsin ferment. These entering the liver are either converted into urea or uric acid, according to the oxygen assimilating power of the liver protoplasm. The latter transformation occurs mostly when the supply of oxygen is not abundantly sufficient in the blood, and when the tone and vigor of the hepatic protoplasm is depressed or otherwise enfeebled. There is a powerful series of transformations going on in the liver, and all cause an immense consumption of oxygen.

The glycogenic function is largely at fault in cases of excessive uric acid formation, owing to the greater feebleness of the protoplasmic elements of the hepatic cells to transform glucose or dextrin into glycogen and store it. So we also have largely the uric acid diathesis: the muscles are at fault; in them glycogen is largely burned up.

The muscles are also makers of uric acid, but only to a limited degree. A dog fed very liberally on proteid food, and kept very quiet, produces immense quantities of uric acid, and if the supply of oxygen to his blood is the least interfered with, sugar appears in his urine, and his liver undergoes fatty degeneration.

The liver changes are uppermost, and its function is pre-eminent in the processes of oxydation that rid the system of effete material.

We find uric acid most abundant in persons whose power to digest oxygen is either impaired or naturally feeble from inheritance. In the opening stage of tuberculous development, when the energy of the protoplasm of the elemtary tissues is lowered, uric acid augments and the circulation in the liver grows feeble, the vesicles of the portal veins are too full, and the blood flows too slowly out of the organ; as a gross result the ventricles of the heart suffer, and the left is especially enfeebled.

In most cases of uric acid diathesis the liver is not producing its proper quantity of bile, and most likely the changes of the food in the duodenum are not perfect, so that much imperfect chyme enters the blood of the portal veins.

When the uric acid diathesis is being established, all the nerve centres are greatly irritated; the reflexes are often at fault; the sympathetic with the vaso-motors are enfeebled.

The most efficient treatment of uric acid diathesis is oxygen assimilation. We have learned how the action of the diaphragm helps to hasten the blood through the liver and also through the pulmonary artery. Oxygen is the main remedy, but the tissues must be provoked to take and assimilate it.

I have seen scores of cases of uric acid diathesis get well by proper exercise in the open air. One of the best methods is to ascend mountain heights. People who live in a well drained mountainous country never, or very seldom, have uric acid diathesis.

The sedentary brain worker, the sloth, the gormandizer and wine bibber, and the lazy, idle heavy feeder who keeps in the house and takes only sparingly of out-door exercise, are the victims of uric acid diathesis; yet there are others who are born subject to it, but can get along remarkably well if they live an active life in the open air. I have known many cases to get well by sleeping in the pine woods in a hammock, drinking pure water, eating what they liked, and keeping out of doors and on the move.

Teach the lithæmic patient to fill his lungs up thoroughly, and educate the respiratory muscles to work with vigor. The lungs must be filled by strenuous effort and kept expanded for a minute. This is hard work at first, is tiresome and even painful, but grit, resolution, and strong will must be brought to the work.

I have cured many cases this way; I treat them as I do some cases of consumption.

The whole sum and substance is contained in energizing the tissues to take up and assimilate oxygen. This is the greatest liver medicine, the purest and most efficient killer of all germs, and the soul of good health. Uric acid subjects are but poor consumers of oxygen. Too frequently they drink too little water.

Remember to regulate the food and restrict too free use of proteids and sugar.

Among the medicaments that benefit these patients are: Snake root, hydrastis, nux, aloes, muriate of ammonia, borax, phosphoric acid, nitric acid, wahoo, blue flag, butternut, and many others. Each has its use. Iron, quinine and narcotics are only tolerated by them; all fermented drinks must be dispensed with. Remember that full respiration acts as a pump to the liver; and good exercise in the open air, early rising, frugal living, plenty of water—drinking at night at least a pint—are essential. I prefer to burn out the uric acid by exercise and oxygen.

CLINICAL NOTES.

GLYCEROL OF PEPSIN IN VOMITING.

Dr. T. W. Kohr, of Boston, writes that, having a case of vomiting in pregnancy, and all other remedies having failed to control, he attained final success by means of *glycerol of pepsin.*

PEPSIN IN DIPHTHERIA.

Dr. W. R. McLaren, of Knoxville, Ill., sends the AGE the following:

On Oct. 2d, 1889, I was called to attend a girl obout 15 years old, very fleshy and large. I found her with a flushed face, pulse 120, and temperature 104°; complained of pain on swallowing, and examination of the mouth and throat revealed very extensive ulcerations of both tonsils extending to the velum palati and air passages. I diagnosed the case diphtheria, and prescribed veratrum, aconite, and chlorate of potash, in sufficient quantities to control the circulation and combat further septicæmia. Locally I employed *pepsinum purum*, finely pulverized in a mortar with sugar-of-milk and starch; this I applied to the diseased surface by means of a long rye-straw, putting the powder in one end, and, when *in situ*, puffing it over the diseased surfaces, to which, from its adhesive qualities, it readily adhered.

Now I care not what theory of the cause of diphtheria be true—whether the inflammatory process and the exudation therefrom be caused by a microbe, or any other living germ, or whether the disease is due to local or meteorological causes—the *local* and *constitutional conditions* remain the same. And I gave the *pepsinum purum* to dissolve the membrane (*to eat up the cause*, as it were), and thus hasten convalescence. This treatment I pursued for about a week, varying only the febrifuge to suit the temperature, when—although there was yet remaining some slight ulceration of the tonsils—the patient was discharged, and made a good recovery.

The remainder of the family (three in number) soon succumbed to the same disease, and the treatment pursued in the first case was followed in their cases, with most satisfactory results—an early convalescence and complete recovery.

All that is said or written of hydrogen peroxide may more emphatically be said of *pepsinum purum*—that "it is agreeable to the taste, and harmless (to the patient) when swallowed." And that it not only is a solvent of *false membranes*, but that it as well attacks the *living germs* of the dread disease, destroying and dissolving any and all pathological conditions, whether it be a case of diphtheria or membranous croup.

POISONING BY ANTIFEBRIN.

Dr. J. M. Workman, of Knob Noster, Mo., writes:

On Dec. 18th, Mrs. C., a stout, robust woman, 32 years of age, requested me to give her something to relieve a headache. I gave her about eight grains (8 gr.) of antifebrin. Within 15 minutes she told me the pain had left the head and gone to her stomach. In a very few moments more she suffered most violent pains, and continued to suffer for nearly two hours. Her extremities became cold, face purple, pulse hard and quick. I first gave an emetic; then applied heat and friction; also gave whisky and ammonia by the mouth, and atropia and morphia hypodermatically. She came out all right, but I shall be very careful how I administer that remedy hereafter. I have given antifebrin indiscriminately for some time, and never before had an unfavorable symptom arise from its use. Is there an antidote for it?

Correspondence.

PARIS LETTER.

A CASE OF ANTHRAX OF THE INTESTINE.

Our Paris correspondent reports the following case:

Anthrax of the intestine, without external lesion, is an extremely rare affection, even in medical literature, and the following, reported by a French physician, is claimed to be the first well authenticated case occurring in this country:

The symptoms presented by the patient recalled those produced by an obstruction of the

intestine, accompanied by a state of collapse. There were present: Vomiting, distention of the abdomen, no passage of fæcal matter or gas from the rectum, absence more or less complete of the pulse, coldness of the nose and extremities, and pulmonary congestion, the intelligence remaining clear. The diagnosis of internal obstruction from some unknown cause was made, and it was only after the death of the patient that the autopsy revealed the true source of the trouble. A microscopical examination of the blood of the spleen and liver disclosed a large number of bacilli, having all the characteristics of the bacillus anthracis, and their identity was confirmed later by bacteriological experiments and inoculations made upon guinea-pigs.

The patient was a tanner, but he had nothing to do with the skins until after they had been thoroughly tanned and dried.

The case goes to show the wonderful vitality of the bacillus anthracis, being able as it was to withstand the numerous and varied processes of tanning, and to reproduce itself finally in the body of the patient.

A question of general interest to-day is the important matter: What becomes of the various disease-producing microbes in the cadaver. This question has lately been investigated by a German physician, by means of experiments upon animals—mice, fowls, etc.,—and he has arrived at the conclusion that the true microbes of disease, as, for example, those which produce cholera, tetanus, tuberculosis, etc , live but a short time in the body after death, the time depending upon the rapidity with which putrefaction takes place. In other words, the more robust bacteria of putrefaction supplant and destroy the micrococci of disease.

The Action of Sugar Upon the System.—It is said that various remedies and therapeutic procedures have their rise, their period of popularity, and their decline and return to obscurity. In view of this fact it is interesting, and perhaps amusing, to follow the course of the new remedy, if one may so style it, of Germain See, the eminent therapeutist of the Hotel Dieu, one of the largest general hospitals of Paris. Some time ago he announced the rather starting theory that a solution of glucose in water was a powerful diuretic, and calculated to render emminent service in organic heart disease. This assertion, coming from so high an authority, naturally produced its effects in the medical world, and not a few physicians immediately set to work to test the efficacy of the new theory. As a natural result, at the last meeting of the Therapeutical Society held at Paris, there occurred a lively discussion upon this subject, in the course of which the most varied opinions were given. First, an opinion by a member, which was entirely favorable to the theory of Dr. See. viz.: That the solution of glucose increased the quantity of urine, but did not itself produce glycosuria.

Another declared, that by means of the spectroscope he had discovered unmistakable traces of glucose in the urine of persons to whom the glucose solution had been given. Various members of the Society took sides, some with the former, some with the latter, until finally the discussion was closed by a member who declared, that judging from his own personal experience as well as from the various facts he had been able to collect from other experimentors, the diuretic action of sugar must be considered as a therapeutic illusion.

The meeting of the Society was closed at this point, and it remains for the future to decide whether this new therapeutic agent is of real value, or whether it must be relegated to obscurity along with many others which experience has shown to be of little or no value.

I may be permitted to add that I have myself made some personal observations on this subject, and as a result I feel well nigh convinced, that ordinary cane sugar (with which I made my experiments), when dissolved in water and drank in considerable quantities, has certainly a well marked diuretic action.

A most important investigation has lately been made by a French physician regarding the relation existing between the water supply of Paris and the frequency of typhoid fever in that city. But first it must be stated that Paris is ordinarily supplied with water which is brought from small and uncontaminated streams, situated far above the city, and as long as this continues, the proportion of typhoid fever cases remains about the same in the various quarters of the city.

During the heat of summer, however, this source of supply becomes insufficient and the authorities are compelled to supply certain quarters of the city with water taken directly from the Seine. Under these conditions the proportion changes, the mortality from typhoid fever rapidly increasing in the quarters supplied with water from the Seine, and reaching as high as four or five times the death rate from this disease in those quarters having the purer water from the small streams. This fact is readily explained when it is known that there are a number of large towns on the Seine above Paris, the sewerage from which, more or less charged with typhoid germs, is discharged into the river and finds its way eventually into those quarters of Paris supplied from the river. It would be hardly possible to prove in a more confirming manner the undoubted agency of contaminated river water in the production of typhoid fever.

An Anecdote Concerning Dr. Ricord. The following anecdote is related of the great

specialist Ricord, lately deceased, and is well worthy of repetition as illustrating the character of that remarkable man.

A poor day laborer, suffering from œdema of the glottis as a result of syphilitic ulceration of the larynx, was brought into the amphitheatre. The unfortunate sufferer was without pulse or respiration and seemed as good as dead. Prof. Ricord quickly opened the trachea by severing three or four of the tracheal rings, and overcoming the natural repugnance which any one would feel in a similar case, applied his lips to the opening and sucked the poisonous matter from the trachea until the patient was again able to breath freely.

Dr. Ricord, with his face covered with blood from the wound, did not even think of washing his face, until the patient was out of immediate danger. It is pleasant to record that the man recovered under appropriate treatment.

A PLEA FOR THE HIGHER STANDING OF THE AMERICAN PHYSICIAN.

This is the season of the year when medical bills are being formulated for the guidance of the various legislative bodies that shall meet this winter to enact laws for the people, and it will be strange if something "new under the sun" is not presented, looking to regulation of the practice of medicine. The most varied laws already exist, and there is no standard of excellence sufficiently high to secure license to practice medicine in all parts of our country alike.

The minister, when licensed to preach the gospel, is honored and welcomed everywhere. So too with the lawyer, the teacher, the artist, indeed, even the rudest mechanic is allowed untrameled liberty in his calling. Not so, however, with the doctor. If he changes location, from one State to another,—albeit the move is only a half-mile, provided he crosses the State-line,—he must register his diploma, or go before a medical board of examiners. In some States all diplomas are ignored, and the applicant must submit to an examination by a county board, composed not always of men of scholarly attainments; but who, nevertheless, feel the importance of the positions they occupy.

The State of Alabama ignores all diplomas, as also, I believe, does Virginia and Minnesota; yet how absurd to set aside the diploma of a chartered medical school, with an able body of trained professors, and compel an examination by a medical board of average practitioners, who are certainly as much interested in shutting out an excess of doctors from their county as any medical school could be to swell the number of its alumni; yet, according to Dr. Eggleston's statement, something must be done. In the North American Review, of recent date, the doctor says that: There are not a dozen American medical colleges, out of the one hundred and seventeen, that would be tolerated for a moment in any foreign country that pretends to be civilized." If this is true, no wonder our country is swarming with diplomaëd nobodies engaged in medical practice.

Now what is the remedy? Legislation, both in the interest of the doctor and people, may change the form of quackery, but it cannot eradicate it. The State Board of Illinois has silenced some of the blatant quacks that constantly infest Chicago; but where one successful quack has been driven out, a hundred "natural healers," "Christian science workers," "massage doctors," "spiritual healers," "seventh daughters of seventh daughters," "bust-developers," "clairvoyants," "gypsy queens," "seers," "patent nostrums," etc., etc., have taken his place. The establishing of the Medical Practice Act in Illinois, not only filled the State—the larger cities more particularly—with cure-alls of every kind, but it did more. Before the enactment of that law, the cheaper grade of Chicago's medical schools had a hard struggle for existence, running to very small classes, and generally failing to pay expenses. After the enactment of the law, however, hundreds of doctors practicing in that State were forced into some school, and, being only desirous of evading the law, naturally flocked to the schools granting the cheapest diplomas in the shortest time. No one claims such proceeding to have been educational, but it satisfied the letter of the law; and thus the State Board defeated its own aim, giving law and respectable standing to a large number of men really no more entitled to the name of Doctor now than before receiving their diplomas, besides lifting a number of so called "medical colleges" out of the mire and placing them upon a footing which enables them to turn out poorly educated doctors by the wholesale.

Legislation, nor any other form of force, cannot educate the doctor. It may compel him to get a diploma, but that is not always evidence of learning.

A far greater incentive to scholarly attainment would be the establishing of a National Board of Medical Examiners, before which any one might go who desired to practice medicine; a diploma from said Board licensing the holder to practice anywhere in the United States. Our present system of medical license jobbery from one State to another, is a professional disgrace.

Our Government should also enact a law of reciprocity in this direction, refusing the diplomas of any foreign country which rejected the diploma of our National Board. As the matter now stands, anything in the shape of a doctor may come to this country holding a di-

ploma from any foreign college, and at once be permitted to enjoy all the rights and privileges accorded our native doctors. Yet there are scarcely a dozen of our medical schools whose alumni are allowed to engage in practice abroad.

The fact is, the American doctor has little prestige at home, and none abroad, and no one is to blame for it but himself or his Government. Let our Congress enact a law for the formation of a National Board, to be selected from our best medical talent, before which our medical men who desired to rise to a position of honor in their profession may go for examination, and we will soon create of our doctors, a great medical school, each member struggling to excel each other in fact: whereas, the great desire now is, to excel in pretention.

Holman S. Humphrey, M. D.

Hillsdale, Mich., Dec. 24, '89.

Since writing the above, I see in the last issue of the "New York Medical Record" (Dec. 21) the following:

The French Government has decided that hereafter foreign physicians (more especially the English) will not be allowed to practice medicine in France "except in instances presenting very exceptional claims." This means that the English physician can no longer undertake to practice in the Riviera, or the various Mediterranean health resorts. If this rule is to be made to apply to Americans, it would be only fair to undertake reprisals. There are a good many French physicians who come over to this country to practice, and it is a poor rule that does'nt work both ways.

In the same issue of the Record, I notice: "The state of Minnesota has refused to license a graduate of the Jefferson Medical College, because the term of said college is 8 or 9 days shorter than the Minnesota law requires." This looks like an impudent child slapping its old mother's face.

This kind of State law jobbery reminds one of the oldentime State banks, whose currency was only at par in its own State, and not always there. Such a condition of medical jumble as the various State and society laws now in vogue present, cannot fail to do inestimable harm to the standing and best interests of the American practitioner.

Give us either medical schools whose diplomas cannot be questioned, or else make it possible for the doctor, who so desires, to go before a National Board, and if scholarly enough to secure the diploma of such Board, to be forever at rest as to his professional standing either at home or abroad.

H.

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Editorial.

EPIDEMIC BRONCHITIS—THE INFLUENZA.

We have before noticed the advent of *la grippe*, and given in brief outline the history of its present advent. As it still holds a prominent place in the minds of both the medical profession and the laity, some further remarks, involving its ætiology and management, may not be amiss.

That epidemic influenza is the direct outcome of some peculiar meteorological condition, or atmospheric contamination, is a generally accepted belief; also, that such condition or contamination has brought about the development of some micro-örganism that constitutes the actual *materies morbi*, and that, by contact with the mucous membrane of the nares, fauces, and bronchi, induces local irritation culminating in systemic poisoning.

The foregoing, however, is merely a theory, and very far from being a demonstrated or demonstrable fact, hence should be received with some caution.

An interesting feature of the disease is its apparant cyclical occurrence, which gives color and justification to the Italian baptismal title that derives it from planetary changes. Also, the poisonous influence, whatever it may be or whence derived, wings its way with greater celerity than the speed of human intercourse, while also its progress remains undisturbed by seasons or atmospheric opposition—the present epidemic in a remarkably brief period travelled from the eastern shore of the Baltic, to Paris, and London, and almost simultaneous with its advent in the World's metropolis, appeared on our own shores, and all in the face of prevailing westerly, and consequently adverse, winds. Again, the rapidity with which its onset is made in any one locality is unparalelled; in a single establishment in Paris, nearly seven hundred employes were smitten almost simultaneously, and in London, upwards of half a million were prostrated in a single day.

It is impossible to determine with precision whether the malady spreads by contagion, or is propagated by atmospheric infection, since

it appears to be spread in an equable manner, In numerous instances, only a single individual of a large family is afflicted, while on the other hand, multitudes of cases might be cited in which the epidemic has stricken down simultaneously, or one after another, all the members of a household.

Ordinarilly the period of incubation appears to be about forty-eight hours, though in some few instances it may have been considerably less; and the prodromal stage is often extremely brief, being manifested in much the same way as in other infectious diseases, by lassitude and weariness, headache, backache, muscular soreness, chills, etc.

The more notable symptoms of the invasion are: Heat and dryness of the skin, tenderness of the fauces, hoarseness—frequently accompanied by a harassing cough,—shortness of breath, painful muscles and bones, perverted taste, disordered stomach: in addition there are the evidences of a coryza, but of more than ordinary severity, and all the signs of nervous and muscular prostration, including excessive languor and dejection of spirits. Occasionally the danger is much increased by the onset of an acute bronchitis, capillary inflammation, and perhaps even pneumonia if the patient is aged.

The suddenness and rapidity with which the fever occurs are very remarkable, and it often reaches 104° or 105°, or even 106°, on the first day, which temperature is of itself sufficient evidence of its ephemeral character, for it may disappear as quickly as it arose. The febrile condition, moreover, rarely continues more than forty-eight hours, or seventy-two at most, and is prone to terminate in an attack of diarrhœa, in profuse sweating or diuresis, or barring either, it leaves the sufferer greatly enfeebled and prostrated. In many instances also, especially when prolonged, it presents distinct intermissions and remissions, particularly in the Great Lake region where it appears to possess so-called malarial complications, especially, as in most instances it develops more or less engorgement of the spleen.

A writer in the St. Petersburg Med. Wochenschrift remarks of the disease that its complex symptoms may be divided in three groups, viz.:

1. *The Purely Nervous Form.*—The general symptoms arising from the nervous system are very conspicuous. Sometimes the pains are of a neuralgic character and simulate a beginning pleuritis, etc. The respiratory and intestinal mucous membrane is entirely normal. This form is especially frequent, and has often led to a mistaken diagnosis of incipient typhoid fever.

2. *The Form Characterized by Catarrhal Affection of the Respiratory Mucous Membrane.*—Bronchial catarrh, snuffles, and conjunctivitis, develop with the fever (or sometimes only become conspicuous after its abatement), and last generally four days after the disappearance of the fever.

3. *The Gastric Form, with Catarrhal Affection of the Digestive Tract.*—This sets in with frequent vomiting, which may last from one to two days.

This is in no small degree true also of the epidemic in America.

Special symptoms also have been observed, such as herpes of the lips, nose, and (occasionally) of the eyelids; also, meningeal irritation, and catarrhal pneumonia, the latter the cause of death in the few cases that have had unfortunate termination.

Aside from those not well marked, a great—the greater—number of cases have been of a mild type, running their course in from four to six days, in which only a portion of the decisive symptoms have been manifested, these only in a limited degree, and soon giving way to convalescence.

In typical cases, convalescence occurs in varying manner, depending largely upon the severity of the attack, the surroundings of the patient, and the treatment instituted. Not a few are quite prepared to resume their ordinary occupations within a day or two after the subsidence of the influenza, while with others the catarrhal condition and nervous manifestations persist for a week or ten days. Relapses also may occur—the patient may be free from fever and feel relatively well, only to find, on the sixth or seventh day a return of the symptoms, though of less degree and persistency.

Speaking of this malady, Dr. Roberts Bartholow, in a recent number of the Medical News, says:

"The least robust, at any age, and women, seem to be the first victims. The large numbers simultaneously attacked, attract general attention, and thus the most impressionable are seized, the onset being facilitated by any depressing emotion, like fear or illness. There is no rigor, properly to be thus designated, but rather a series of light chills and a feeling of heat therewith. Sometimes *malaise* of a general kind is experienced, but, like the attack itself is short in duration—lasting but a few hours. * * * * With the first access of the nasal and faucial irritation comes the chilliness, which is followed by some feverishness, with more pronounced *malaise*, and, in general, with headache, weakness and soreness of the members, especially of the larger joints. With the progress of the case in some epidemics there is considerable weakness, even marked depression of the vital powers. The pulse becomes small and weak, the mind gloomy, and restlessness ensues. * * * * When a fatal termination is to occur, as a rule, an extension downward into the trachea and bronchi takes

place. Although catarrhal and croupous pneumonia are said to be 'complications,' they should be regarded as occasional conditions, and when present are, properly speaking, constituent parts of the malady. * * * * The chief importance of croupous and catarrhal pneumonia is that the development of these, out of an existing catarrh of the bronchi, is frequently a cause of death. * * * * The rapidity with which the disease supervenes—its preliminary development being hours, and its whole career but a matter of three or four days—is remarkable. * * * * Relapses are common, usually each succeeding attack being milder; but not a few pass by easy transition into chronic bronchitis, emphysema, asthma, etc. Obviously a catarrhal process, extensive and severe, may contribute immensely to chronic disease of the middle ear, Eustachian tube, nose and throat, and thus permanently damage the parts."

Regarding the therapeusis of influenza, there can be little mistake. The patient should be kept in bed and fed upon barley-water, broths, and other nourishing diet. In the milder cases, no especial medication is, perhaps, demanded other than as may be required to ensure comfort. A mild mercurial laxative, succeeded if need be by a saline aperient, is always admissible and advantageous, and may be followed by quinine muriate and some mild alterative such as euonymin and leptandrin.

In severe cases, more active measures are required. A full dose of calomel, fifteen or twenty grains, which may advantageously be combined with compound colocynth and sufficient camphor-monobromate to prevent depression and griping, will be found useful, not alone for its immediate revulsive and cathartic effect, but as a means of removing in no small degree the poison from the system: it aids materially in cutting short the malady. If the fever runs high, moreover, half-drop doses of normal liquid aconite, or drop doses of a like preparation of gelsemium, given half-hourly, afford relief from pain, at the same time bringing the temperature within more reasonable bounds; the aid of quinine also may be invoked in furtherance of this desire.

In general the new antipyretics are prescribed, more perhaps as the result of fashion than for any real aid afforded. Both antipyrin and antifebrin, however, are contraindicated—or at least should be used with extreme caution—since they alike tend to induce further prostration, to increase the number of white corpuscles of the blood at the expense of the red, and reduce febrile excitement only as the sequel of powerful reflex action exerted through the spinal cord upon the pulmonary and cardiac centres: thus they are ever dangerous in proportion as they manifest analgesic properties. In influenza, where there is always more or less tendency to cardiac (and oft-times as well, pulmonary) weakness, the existing prostration may easily be merged into collapse with lethal exit by means of these synthetic preparations, which by judicious puffing on the part of interested personages seem to have secured a hold upon the medical profession such, that the older, safer, and better antipyretics are almost wholly neglected.

If catarrhal symptoms are manifest, hydrastin and ammonia carbonate will be found valuable adjuvants to quinine; and such other expectorants as are needed may be added. The latter, however, should never be of a distinctly depressant character. Here Fothergill's, expectorant mixture (dilute phosphoric acid, 1 gramme; spts. chloroform, 1.60 gramme; syrup of squill, 4 grammes) four or six times a day in water, answers an admirable purpose; and in the latter stages preceding convalescence, the squill and phosphoric acid may be judiciously replaced by cinchona bark and dilute nitric acid. It may be well, just here, to note that the disease is very little if any benefitted by the ordinary "cough mixtures," unless they are of a tonic or stimulant character.

Chloral hydrate is a remedy that is almost invaluable, since when administered in solution in minimum doses it acts in no small degree as a sedative expectorant and diuretic; and at the same time proves a sedative to the cerebral centres, and to the inflamed mucosa of the entire digestive tract; further, it appears to antagonize the morbific principle to which the malady presumably owes its inception, and serves in no small degree as a conservator of vital force.

Salol might, perhaps, be employed with advantage when there is severe muscular pain—pain that closely resembles the suffering induced by rheumatism—since the writer has found salicylic acid valuable for this purpose when given in pill form (with a tragacanth and glycerin excipient) in five-grain doses every two hours.

Other measures that may be employed are: Tepid sponge baths, or full baths for children, which cause, aside from comfort, considerable recession of fever; moist inhalations; and, where there is bronchial inflammation, flannels sextuply folded and saturated with alcohol and chloroform (one of the latter to sixteen of the former) applied over the chest and around the throat, the whole covered by a dry towel or piece of oiled silk to prevent evaporation.

As has been suggested by Dr. Bartholow, it is only in the extremely aged that untoward complications may be expected, and then only where severe catarrhal bronchitis has been developed. Here, as in all cases, fresh air, and equable temperature, perfect quiet, and a nourishing and stimulating diet, will usually prove all that is desired.

ON THE TREATMENT OF HYDROCELE BY INJECTIONS OF PHENIC ACID.

Heydenreich has published in a recent number of the Semaine Medicale an interesting review of the operative treatment of hydrocele, in which he advocates the use of injections of pure tincture of iodine, while awarding high praise to the method of Levi, described in the British Medical and Surgical Journal, Dec. 8th, 1881.

Levis' mode of procedure is as follows: The hydrocele is first emptied of its contents by a trocar. Then with a syringe furnished with a small tip, a small quantity of concentrated carbolic acid (the crystals being used after first being liquified by heat or a few drops of glycerin) is injected into the sac through the cannula; Levi would not exceed half a drachm of the acid. After the injection, the scrotum is carefully manipulated with the fingers, in order to bring the phenic acid in contact with the whole internal surface of the tunica vaginalis. The injected liquid is allowed to remain.

Levi's method has been scrupulously followed by a certain number of surgeons. Others have varied somewhat from his method. Thus, Shoetzke injects half an ounce of a relatively weak solution—from 3 to 8 per cent. As the pain caused by the injection at 8 per cent. is severe, this writer recommends to use first the weaker (3 per cent. solution), and afterwards to resort to the stronger, which alone is curative.

Still weaker solutions have been employed, as 1 per cent., and many surgeons, instead of leaving the injection in the sac, allowed it after a time to run out. Heydenreich, who has had experience with all the modes, prefers the pure phenic acid, as Levis advises.

The pain, he says, is not excessive; it is a sensation of heat, a sort of numbness rather than pain or smarting.

The consecutive reaction is moderate. More or less swelling follows the injection, but this never attains the size which the hydrocele presented before the operation. There is no fever; the appetite remains good, and the patient is not debarred from doing some light work. Lastly, the reabsorption of the liquid which forms after the operation is rapid; at the end of about a week, the patient may be considered as cured.

According to Levis, the cure after the injection of pure phenic acid is due to the obliteration of the sac by adhesion of the parietal to the visceral layer. This obliteration was often obtained when tincture of iodine was employed, according to the old method, as Hutin's researches showed. Having had the opportunity sixteen times to perform the autopsy in patients that had been treated for hydrocele by injections of tincture of iodine and water (1–3), he found in eight, complete obliteration of the serosa; in four, there were no adhesions; and in four the adhesions were partial.

Statistics show that Levis' method has been attended with a large measure of success. Some surgeons (as Abbe, Keyes, Helferich) claim uniformly good results. Others, as Labat de Lambert, report a certain proportion of failures. On the whole, Heydenreich finds that no mode of treatment furnishes absolute guaranty against failures or relapses; he believes, however, that the percentage of relapses will be reduced to the minimum when undiluted tincture of iodine is used, which may be injected just as Levis injects the phenic acid, and which, while just as efficacious as a curative means, is more bland and less irritating.

As for the safety of the phenic acid injection, he finds recorded at least three serious accidents consective to the injection of pure phenic acid. The injections of tincture of iodine—diluted or full strength—have rarely, if ever, Heydenreich thinks, been followed by phlegmons and lymphangitis.

Abbe, in a case where the tunica vaginalis was excessively distended with serum, injected three drachms of pure phenic acid. Suppuration followed; the patient got well after evacuation of pus. In this case, the quantity of phenic acid injected seems to have been excessive. One of Monod's patients was treated by the injection of 3 grammes of the pure acid; a painful phlegmonous swelling of the scrotum followed; there was, moreover, lymphangitis of the spermatic cord and pubic region. Monod made a puncture with a trocar and drew off 10 ounces of a brownish liquid containing clots of fibrin and pus globules; then he made at the anterior part of the scrotum an incision an inch long, but obtained no pus. Two days afterwards, he incised the tunica vaginalis which he found lined by a false membrane of commencing hæmatocele; he decorticated this false membrane and cured the patient.

Helferich had a grave accident consecutive to his thirty-second operation. After evacuating the liquid of a hydrocele, he injected three and a half drachms of a 95 per cent. solution of phenic acid. The evening of the operation, the scrotum had swollen to the size of an adult's head; the tumor was indurated and painful. A puncture was made without result. Helferich then incised the tumefied parts; the cellular tissue was infiltrated with blood; the sac contained 10 c. c. of a brownish serosity, and its inner surface was white, as if cauterized. The symptoms, however, soon underwent amelioration, and Helferich, after having chloroformed the patient, extirpated the testicle and the neighboring parts which had begun to sphacelate. The patient recovered.

Heydenreich, after receiving all the facts in his possession relative to the comparative cer-

tainty and safety of the old and the new operation for the radical cure of this affection, gives his preference for the iodine injections.

NITRO-GLYCERIN IN ARTERIO-SCLEROSIS.

Clemente Fereira has published an interesting series of cases in which the benefits of nitro-glycerin (glonoin, trinitrin) in certain affections of the heart and arteries are well demonstrated.

Case 1 was styled: *Generalized Arterio-Sclerosis; Atheromatous Endarteritis.* The leading symptoms were: Frequent attacks of ferocious angina (the sub-sternal cardiac pain radiating up the neck and down the left arm), palpitations, vertigo, and breathlessness on exertion. Accentuation of second sounds — diastolic clangor; *bruit de galop*, augmentation of the pre-aortic dulness; hard, tight, bounding, radial pulse; atheromatous peripheral arteries. Nitro-glycerin in drop doses, three times a day, of the centesimal solution, was prescribed, also Huchard's iodide of sodium mixture. General amelioration followed, the pain, dyspnœa, etc., markedly diminishing, In one month the patient was well enough to leave the hospital.

Case 2 was tabulated: *Generalized Arterio-Sclerosis; Alcoholic Gastritis; Arterial Nephritis.* In this case, the gastric and nephritic complications were regarded as parts of the great morbid process, and due to arterial sclerosis. Gastralgia and vomiting were prominent symptoms; there were crises of dyspnœa and vesical troubles. The urine was pale, abundant, slightly albuminous, and of low specific gravity. Anscultation revealed hypertrophy of the left ventricle, and a *bruit de galop;* some pulmonary violence. The following solution of nitro-glycerin was prescribed:

> Alcoholic solution of trinitrin (centesimal), gtt x.
> Distilled water, 100 grammes.
> Dose, a tablespoonful three times a day.

This treatment was followed by marked improvement in the cardinal symptoms.

Case 3 was one of: *Arterio-Sclerosis and Aortectasis*, from alcoholism and abuse of tobacco. The above solution of trinitrin was prescribed, with rapid and progressive ameliation. In this case a valuable adjuvant to the nitro-glycerin was found in iodide of sodium.

Case 4 resembled case 3. There were severe paroxysms of angina pectoris. Besides the diagnosis of aortectasis, that of sclerosis of the coronary arteries and sclerous myocarditis was made. There was pronounced arythmia and cerebral anæmia. The solution of trinitrin was prescribed. The patient was at first benefited, and the angina pectoris was relieved; he shortly, however, succumbed to heart failure.

Case 5 was tabulated: *Arterio-Sclerosis with Dilatation of the Aorta; Violent attacks of Pseudo-Asthma, Anginous Paroxysms.* There was considerable improvement under nitro-glycerin and iodide of sodium.

Case 6 was one of advanced aortectasis. There were frightful paroxysms of angina pectoris with radiations to the neck and left arm; the attacks were often accompanied with fainting. Iodide of potassium had been at first prescribed; under its influence, the attacks were less frequent. Inhalations of nitrite of amyl subsequently gave some relief to the violence of the crises. The patient was finally made fairly comfortable under the continued use of trinitrin.

Case 7 was one of aortectasis from excessive use of tobacco. There was cardiac arythmia and intermittence. The patient was made miserable by frequent attacks of thoracic angina. Under the use of trinitrin and abstinence from tobacco there was a gratifying improvement.

Clemente Ferreira remarks that in all cases where the physician has to do with the general process of arterio-sclerosis which localizes itself here upon the aortic or peripheral system, there upon the coronary arteries, the dominant, capital symptom to which are linked many of the troubles and disorders of which the patients complain, is constituted by the vascular hypertension, by the exaggeration of the arterial pressure. This hypertension, which is brought about by the loss of elasticity of the arteries affected with endarteritis, by the hypertrophy of the heart provoked by its exaggerated efforts against the obstacles occasioned by the obliteration of the sclerous vessels, and by the spasmodic state of the arterial system determined by the morbid conditions of the arteries and by the vascular reflexes originating in the inflammatory irritation of the walls of the aorta—this hypertension becomes in its turn a cause of arterio-sclerosis by reason of the irritation which the friction of the blood against the walls of the vessels produces in an evident manner. The endarteritis under the influence of this irritation becomes more marked, and a vicious circle is established, the arterio-sclerosis bringing about hypertension, and the hypertension provoking an aggravation of the artero-sclerosis. Hence, the capital indication in all these cases for the employment of medicine which depress this tension.

Trinitrin perfectly fulfils this indication, for it brings down the arterial tension, and by its vaso-dilator properties, opposes the arterial spasms which markedly contribute to the augmentation of the hypertension.

In angina pectoris, it combats the cardiac ischæmia by its vaso-dilator action, it favors the irrigation of the myocardium, and opens

up the general capillary circulation, thus lightening the work of the heart.

EUTHANASIA FOR CONDEMNED CRIMINALS.

The hyperæsthetic mentality that imbues men and women with sympathy for murderers, rapists, *et al*, yet denies the same to vulgar thieves violating the laws of *meum* and *tuum* —driven by starvation, perhaps,—is a neurological problem entirely beyond the ken of the expert alienist.

Periodically these reformers advance some new scheme for robbing the law of its terrors, and cheating justice of its dues. In the last volume of the AGE, under the caption of "Execution by Electricity," we had occasion to allude to such misdirected philanthropy as being exercised to save the murderer Kemmler from the penalty of his crimes, on the specious plea that the new method of execution adopted legally by the State of New York, was "unusual and cruel." This new execution law, formulated in the interest of one wing of the ultra philanthropical element of Society, has proved unsatisfactory to this class generally, and now another scheme has been sprung, this time by the philanthropists of Massachusetts.

This is neither more or less than a proposal to make the condemned cell an execution apartment, by turning it into a sort of grotto of Capri. According to the plan announced, the murderer, unaware of the moment of his taking off, some evening retires to his couch, when carbonic oxide is introduced from the room above, and being heavier than the atmosphere, gradually settles to the floor of the chamber and lulls him to lethal sleep. Two minutes is the extreme limit of time claimed as necessary to usher the condemned into the unknown.

While we may be permitted some skepticism as to death taking place so nearly instantaneously, we have not the least doubt that such execution could be encompassed in a very brief period, and made almost painless. Our limited perpiscacity, however, permits us to see but one direct benefit to be derived from such procedure—no inconsiderable one either, by the way—viz.: The struggles and final exit of the condemned could no longer serve, as is too often the case at present, as a delectable exhibition for the benefit of sensational newsmongers and other depraved individuals; to be sure, also, the sheriff and deputies would be saved some of the opprobrium that now attaches to the offices of executioner and assistants on such occasions.

Let us for a moment regard the other side of the question.

First and foremost is the query whether murders who have entailed untold suffering, perhaps, upon their victims, and their victims' relatives and friends, and placed the State at no little expense both in their defense and to secure their just condemnation, are in any sense entitled to a death bed of ease. Strict candor compells the admission that the perpetrators of such foul crimes deserve not the least sympathy, and the sympathy that is so generally expressed by a certain class of ultra-philantropists acts in no small degree as a premium upon crime. Would it be advisable, then, to add a second premium such as euthanasia would constitute?

Admitting that the gallows and rope constitute a method of execution more repulsive than the axe, the sword, the guillotine,—or even the garrote, perhaps,—it must be granted that repulsion is necessary to constitute punishment; yet even such execution might be conducted so as to be shorn of its most objectionable features, which after all are retained chiefly in the interests of a sensational press—for it is safe to say that if reporters were denied these scenes, there would be fewer public or semi-public exhibitions of this character.

Second, what is there pertaining to criminals that should entitle them to the sympathies of Society at large? As the Lancet of London justly remarks: "What have they, of all men, done that the pains of death shall not fall upon them; and why should they of all men go out of existence in gentle sleep, knowing no more of their death than of their birth?"

And why should the murderer enjoy euthanasia as a reward for crime, when the upright man, a sufferer from fatal malignant disease entailing the most excruciating tortures imaginable, is forbidden the same privilege?—for it must be remembered that *felo de se*, attempted but not accomplished, is a penal as well as theological offense.

Why should the same murderer escape as far as possible the pangs of a "*punishment*" demanded—called for by legal utterance through a law that also expresses unreservedly the dictum he "*shall suffer*,"—while the demented and idiotic, reduced to lower level than the brute, is denied what would be a real boon to himself, his friends, and to the community at large?

Some of those who uphold euthanasia for criminals, express the opinion that the terrors of the law will be better borne out by denying the criminal religious consolation in his final moments—that such must necessarily be the result where execution is by means of a lethal chamber and carbonic oxide.

This is plausible, and in some measure true also. But will it be possible in the present state of Society to return to "execution without benefit of the clergy?" We admit it has always seemed somewhat of a travesty on justice that the rewards of the future world

are promised the murderer who has sent his victim into the hereafter unshriven—that the criminal shall enjoy the boon of Paradise while his innocent victim is denied entrance through the Golden Gate!

To quote the Lancet again: "The common theory is that by taking the lives of criminals, the law deters others, by the awful dread of the penalty, from committing the crime for the punishment of which the penalty is cast. Is euthanasia likely to be a deterrent? No man who has been in the practice of medicine for five years would admit anything of the kind. Practitioners of medicine learn very soon the history of those, by no means a limited class, who would willingly die at any hour were it not for the fear of the suffering that might attend the supreme event. If men never committed suicide, or if we could trust a man under sentence of death to his own devices in his cell, with appliances for suicide at his command, there would be some reason in the argument. But when we know that life is so little valued by a large class wearied of it, and that many would gladly seek death if the latter would only come without a pang, it is surely the perfection of folly to offer that class the very method of death which it does not fear. Such a proceeding is like offering a premium on murder. Why, then, alter the present state of things? In the present method of execution by hanging there is not one bit too much of the deterrent element; for, as it is well known physiologically, there is no infliction of special agony beyond that common to dying from any sudden and violent mode of death."

Notes and News.

The Status of Women as Medical Practitioners.—"There is nothing new but what has been forgotten," says a latter-day Frenchman; a brilliant aphorism which seems to be especially true of the lady doctors. In ancient Rome and Greece, women were almost entirely excluded from the practice of medicine as a profession. It is in the Mediæval times that they first assumed anything like prominence in that capacity.

During the period of feudalism and chivalry, the exercise of the healing art lay almost entirely with the nuns, the monks, and, to a lesser degree, the women of the households. The practice of the tilting yards, as well as the more serious encounters of the tournaments and of actual warfare, provided them with plenty of surgical material. About the early part of the fourteenth century the French formally recognized the woman surgeons under the name of *médiciennes*. During the succeeding centuries instances of women famous for their accomplishments in medicine can be found in many countries.

The movement of late years, which has resulted in the full legal recognition of female practitioners, is, therefore, as some writer has well pointed out, rather the restoration of a lost privilege than the institution of a new order of things. As everyone knows, it was after a long and arduous combat only that the women secured the right of admission to the medical examinations.

Qualifications of every kind being now open to women, it remains to be seen what place they will ultimately assume in the community. —*Med. Press and Circular.*

The Phonograph as a Language Teacher.—Edison's phonograph has scarcely, as yet, passed the period of "novelty and curiosity," but many practical applications of the instrument have already been suggested, and have in some cases been actually carried out. There is one application, however, which we have so far not heard mentioned, and that is the instruction in the pronunciation of foreign languages. It is impossible to learn to speak a foreign modern language by self-instruction, since the true pronunciation can only be acquired by personal intercourse with one who is a native, or equal to one in linguistic perfection. In the future the publisher of manuals of instruction in foreign languages will find it, most likely, a paying undertaking to publish a phonographic key to the various exercises, thus enabling the learner to acquire the correct intonation and pronunciation by causing the phonograph to repeat the word or sentence until it has been perfectly imitated by himself. Perhaps this suggestion may be thought to be foreign to the purposes of a pharmaceutical journal. But our profession is so situated, in many parts of the country, that a knowledge of more than one language is almost a necessity. And while actual instruction by a competent teacher is certainly the best method, the substitution of the phonographic method appears to us to be the next best in choice. We can only throw out the suggestion here, and must leave the practical execution to those who control the phonograph.—*Pharmaceutical Record.*

Disinfection of Dwellings by Sulphur Dioxide.—Dr. Cyrus Edson, in N. Y. Med. Record, in an article on the above topic, reaches the following conclusions:

It would seem that the proper and most practical method of disinfecting dwellings, after the occurrence in them of exanthemata and of diphtheria, is by means of sulphur dioxide, and that all clothing, bedding, etc., used in direct contact with the patient, should be removed to a properly equipped disinfect-

ing station, and there be subjected to heat of sufficient intensity to destroy all contagious matter. This in future will, I believe, be the method pursued by the Health Department of the City of New York.

In the discussion of this paper by the American Public Health Association, the method of fumigation was criticised, it being alleged that not sufficient moisture was present with the sulphur dioxide to insure the best results. A very important point in this connection was brought out. The use of alcohol to ignite the sulphur, as described in the paper, adds materially to the moisture in the air of the infected rooms. The amount of alcohol used is, as I have stated, about four ounces to each charge, say of six pounds. This amount of alcohol will develop fifty quarts of steam, approximately. To Dr. E. H. Bartley, of Brooklyn, I am indebted for this estimation and suggestion.

Wholesale Official Prescribing.—We notice with considerable surprise the publication in the daily papers of a prescription for the threatened epidemic of influenza, which is said to be by the sanction of the Board of Health. We trust we have been misinformed on this subject, as the so-called remedy is not only of no good whatever, but its use as directed is liable to be attended with great danger. Here is the prescription in question:

"For Russian influenza or 'grip'—spray the affected membrane with a ten per cent. solution of quinine freely and frequently, and take four or five times a day a pill made as follows: Quinine, 3 grains; camphor, ½ grain; extract of belladonna, ¼ grain."

Very many of the pharmacists about town have very properly refused to make up the prescription, and very many patients who believe in wholesale cheap prescribing, may follow the directions to their sorrow. We cannot believe that the publication of this prescription is made by the authority of the Health Board. If it is, the Board owes an explanation and apology to the profession and the public.—*Med. Record*, Dec. 21st, 1889.

Work on the new addition to Roosevelt Hospital, New York, will be commenced as soon as the architect gets the plans drawn. Recently the hospital managers received $350,000 from the estate of the late W. J. Lyons, of New York, for the erection of a new building. It will be located on the Fifty-ninth Street end of the property, and be 100 feet by 75 feet. The cost will be about $200,000. The balance of the legacy will be invested for the maintainance of the institution. For some time past the demand for a new operating room has been very great, and the new building will be utilized for that purpose.

Amount of Alcohol in Liquors.—This table shows the proportion of alcohol contained in every 100 parts of the liquor named:

Name of liquor.	*Per cent.*	*Name of liquor.*	*Per cent.*
Small beer, 1 and	1.08	Shiraz	15 52
Porter, 3, 5 and	5.26	Malmsey	16.40
Brown stout	6.80	Sherry	17.17
Perry	7.26	Malaga	17.20
Rhenish	7.58	Alba Flora	17.26
Moselle	8.70	Hermitage, white	17.43
Johannisberger	8.71	Cape Muscatel	18.25
Elder wine	8.79	Constantine, red	18.92
Claret ordinaire	8.99	Lisbon	18.94
Cider, 5, 2 and	9.80	Lachryma	19.70
Tokay	9.33	Colares	19.75
Ale	10.00	Teneriffe	19.79
Rudesheimer	10.72	Currant wine	20.55
Marcobrunner	11.60	Madeira	22.27
Gooseberry wine	11.84	Port	23.00
Hockheimer	12.03	Sherry, old	23.86
Vin de Grave	12.08	Marsala	25.00
Hermitage, red	12.32	Raisin wine	25.12
Champagne	12.61	Madeira Sercial	27.40
Amontillado	12.63	Cape Madeira	29.51
Frontignac	12 89	Gin	51.60
Barsac	13.86	Brandy	53.39
Sauterne	14.22	Rum	53.68
Champagne Burg'y	14.57	Irish whisky	53 90
White port	15 00	Scotch whisky	54.32
Bordeaux	15.10		

—*Brooklyn Med. Jour.*

Sleep —

Somne veni! et quanquam certissima mortis imago es,
Consortem cupio te tamen esse tori!
Huc ades, haud arbiture cito; nam sic sine vita
Vivere, quam suave est, sic sine morte mori.

Come, Sleep! tho' image thou of Death most meet,
Yet on my couch for thy embrace I sigh!
Come then, nor soon depart!—for 'tis most sweet,
Thus without life to live, thus without death to die.

Life,—yet no pain of living,—oh, how sweet!
Death,—yet no sting of death he fears or knows
Whose eye thou closest,—in his bosom meet
The bliss of being and the grave's repose.

—*Med. Classics.*

The Bacillus of Warts.—Dr. Kunemann has found in sections of warts (*verruca vulgaris*) a bacillus which is always present in the prickle layer. It has distinctive qualities as regards its capacity for color, and is found both between and in the cells. Its form is that of exceedingly delicate slender rods, the thickness bearing the proportion to the length of one to six. It is seldom found in the skin surrounding the warts, and is found most plentifully when the wart is recent.

A Doctor's Bill.—The suit of Dr. Nathan B. Gorter against Robert Garrett for $25,000 for professional services, which has been pending in court, was settled December 5th in Baltimore. Dr. Gorter offered to compromise for $18,000, and the proposition was accepted and the money paid.

Sterilized Milk for Sale.—It is stated that some of the druggists of Leipzig have arranged to prepare sterilized milk, after the method of Soxhelt, and dispense it like other articles.—*News.*

Therapeutic Brevities.

Various Methods of Treating Psoriasis.—The Medical Chronicle, October, 1889, in reviewing several of the more usual external and internal measures for the treatment of psoriasis, says:

Most authorities prefer arsenic to any other internal remedy. It may be given in the form of pills, or as Fowler's solution, either in the ordinary way or hypodermically, when filtered or combined with an antiseptic. Tar water, carbolic acid, turpentine, copaiba, phosphorus, and even cantharides, are spoken of as remedies. Bulkley (N. Y. Med. Jour., July, 1889) says that alkalies are often beneficial. "The best form to give them in is acetate of potassium, lithium, or calcium." Iron and cod-liver oil he finds useful. Oils and fats if digested, pure woolen clothing next the skin, and a warm equable climate, he considers important factors in treatment. Gutteling (Weekbl. van het Nederl. Tidjsch voor Geenesk, No. 17, 1889) abstracted in Wiener med. Blätter) reports on the results of treating 22 cases of psoriasis vulgaris with large quantities of iodide of potassium. The remedy was given frequently, and the doses gradually increased. Five cases were completely cured; in five the iodide had to be abandoned; there was a decided improvement in the 12 cases remaining. The largest quantity given in one day was 57 grammes (about 14 drachms), and the largest amount taken during the whole course of treatment by a single patient was 3684 grammes (about 7 pounds). Several patients gained weight whilst taking enormous doses of the iodide, whereas only a few of them had acne or iodic purpura. The drug is said to be especially beneficial in recent cases. Daily doses of from 10 to 20 grammes (about 2½ to 5 drachms) are recommended. If, owing to failure, large doses have to be resorted to, the improvement will be incomplete. In the five cases which were completely cured, the course varied from 14 days to 4½ months. Barduzzi (abst. Brit. Jour. of Dermat., from Gazetta d. Ospitali, 17, 1889) confirms the good results obtained by Dutchmen: "In three diffuse universal cases of very inveterate character, which had been treated with transient success by all the usual remedies, he obtained results from iodide of potassium which he never hoped for. In none of his cases was the amount of the drug larger than 7 grammes (105 grains) daily."

According to Bulkley, visits to mineral springs reputed to cure psoriasis, lead only to disappointment. "He did not know of a single cure effected by sulphur waters, though the reputation of such waters was the highest of any." With regard to external applications, the treatment should vary with the cases. Bulkley has abandoned the use of chrysarobin, antharobin, and pyrogallol, because he has found that white precipitate ointment answers better than these preparations. Besnier (abst. Brit. Jour. of Dermat.) has recently recommended beta-naphthol. He rubs in this ointment—beta-naphthol 10, adipis 90—every evening. In the morning the ointment is washed off with warm water and soap, and the skin powdered with starch. According to Kaposi, who introduced beta-naphthol into practice some years ago, the 15 per cent. ointment, which he prescribes, is a valuable application for the hands, face, and scalp, inasmuch as it does not discolor the skin or the hair. Bulkley believes that local applications, used early, prevent the development of the eruption. There is no doubt that treatment is most successful when the eruption is fading, and least so when the eruption is coming out, the spots rapidly extending, and the exfoliation very great.—*Medical News*, Oct. 26th, 1839.

Solanum Carolinense.—The claims of Horse-nettle, to be considered a valuable therapeutic agent in convulsive affections, have been again brought forward. Dr. J. L. Napier, of Blenheim, South Carolina, read a paper, before the South Carolina Medical Society, on "Its Efficacy in Epilepsy and in Convulsions due to Albuminuria during Pregnancy." The preparation used was a tincture prepared from the fruit of the plant, and the following account of its action is summarised from the September number of the Virginia Medical Monthly:

In the summer of 1887, Dr. Napier was called to attend a woman who had suffered from epilepsy most of her life. During her menstrual periods she was generally in an epileptic condition. After trying the usual remedies, which in her case gave no relief, he gave her a teaspoonful of the tincture of horse-nettle, three times a day, and continued the remedy for months. "Three days after taking it she was threatened with a convulsion, but had had no sign of an attack from that day to this."

"Another case, was that of a dwarfed ill-formed child, that had had epilepsy all its life. Some time before he had had typhoid fever, and had never recovered from its effects, but went into a decline. Its convulsions became oftener and harder, and occurred repeatedly during the twenty-four hours. He had used the bromides to control the convulsions, but they had no effect at all. Finally he put the child on the tincture of horse-nettle, and after that it had never had any more convulsions." He also used it with benefit in four other cases. In the case of a pregnant woman suffering with convulsions due to albuminuria, good results have followed from the use of the tincture.

Solanum Carolinense was recommended for convulsive affections by Dr. Francis Peyre Porcher in his interesting and valuable work "Resources of the Southern Fields and Forests," and quotes Valentine's good opinion of the plant in non-traumatic tetanus, and notices Lee's article (Journal Gen. de Med., x 4, 14); and he mentions that amongst the negroes in the State of South Carolina it possesses some reputation as an aphrodisiac. The plant grows abundantly in the vicinity of Charleston, and Mr. Louis Genois, apothecary of that city, produced a twenty-per-cent. tincture from the berries. The dose varies from ten drops to a drachm, and should be pushed until the physiological effect, drowsiness, is produced. It is to be hoped that some of the chemical manufacturing firms will provide the profession with a reliable preparation: Messrs. Parke, Davis & Co., of Detroit, Michigan, or Messrs. Purcell, Ladd & Co., of Richmond, Virginia, might add, with benefit to themselves and the profession, an extract of the plant to their lists of drugs.—Geo. F. Foy, F. R. C. S., in the *Medical Press and Circular*,

Treatment of Tonsillitis.—Dr. Haberkom, in the Centralblatt für Chirurgie, recommends salicylic acid in the treatment of acute tonsillitis. "The best and simplest mode is to apply the powdered acid directly by means of a rather large camel's-hair pencil, which may be slightly moistened. In this way it is brought directly in contact with the diseased surface, and but few applications are necessary.

When the tonsils are covered with a thick mucous coating—which may be diphtheritic—it is necessary to remove it previously, and the following liquid, to be also applied with a brush, acts extremely well:

℞ Pepsin, grains xxx.
Dilute hydrochloric acid, ʒ j.
Water, ʒ v.
Glycerin, ʒ jv.

The coating is quickly dissolved (digested) by this solution.

Beside applying the acid locally, it is advisable to give it internally at the same time, thus:

℞ Salicylic acid, grains xxx.
Mucilage of acacia, ʒ j.
Simple syrup, ʒ ss.
Water, ʒ jvss.
M. Sig.—A tablespoonful every two hours.

In the more chronic forms it is well to pencil the tonsils with:

℞ Tannin, grains xv.
Tincture of iodine, ♏ij.
Glycerin, ʒ v.
Water, ʒ j.

For the prompt dispersal of threatened quinsy, apply with a brush three times a day the following solution:

℞ Tannin, grains xv.
Tincture of iodine, ♏iij.
Carbolic acid, ʒ ss.
Glycerin, ʒ v.
Water, ʒ ijss.

—*Provincial Medical Journal*, Dec. 1889.

Hæmoptyses of Elderly Persons.—Sir Andrew Clark, the distinguished London physician, read a paper before the Medical Society of London entitled "The Non-Tubercular and Non-Cardiac Hæmoptyses of Elderly Persons." As a result of his investigations he arrives at the following facts:

1. There occurs in elderly persons free from ordinary diseases of the heart and lungs, a form of hæmoptysis arising out of minute structural alterations in the terminal blood-vessels of the lung.

2. These vascular alterations occuring in persons of the arthritic diathesis, resemble the vascular alterations found in osteo-arthritic articulations, and are of themselves of an arthritic nature.

3. Although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of the heart or of the lungs.

4. When present, this variety of hæmorrhage is aggravated or maintained by the frequent administration of large doses of strong astringents, by the application of ice-bags to the chest, and by an unrestricted indulgence in liquids to allay the thirst which the astringents create.

5. The treatment which appears at present to be the most successful in this variety of hæmoptysis, consists in diet and quiet, in the restricted use of liquids, and the stilling of the cough; in calomel and salines; in the use of alkalies with iodide of potassium; and in frequently renewed counter irritation.

Food in the Treatment of Pulmonary Consumption.—In phthisis, there is an imperfect metabolism of carbo-hydrates. Experience shows a nitrogenous dietary to be best. Debove has shown that consumptives can assimilate a quantity of food far in excess of the needs of the healthy organism. This excessive quantity should be supplied, though resort to the stomach-tube can be reserved for special cases.

Meat, principally beef with milk, fish, eggs, leguminous vegetables and greens, should form the bulk of the dietary, with fat in large quantities; if necessary, cod-liver oil or oleaginous inunctions. Alcohol is a food in consumption; it should be combined with malt, milk, glycerin, or cod liver oil. Not more than three, at most four, hours, except during sleep, should be allowed to elapse without taking food. Milk punch on going to bed, and a glass of wine or spirits with liquid peptonoids in case of waking during the night, are strongly urged. Hot water before meals, lavage if necessary, and the free drinking of water, are essential. Predigested foods may be employed with great benefit, especially peptonized milk and beef peptonoids. In case gavage is resorted to, they should be used almost exclusively. Gavage is best preceded by lavage with an alkaline solution and chloroform-water.—Solis-Cohen, in *Dietetic Gazette.*

Prescription for Psoriasis.—The favorite prescription of Mr. Jonathan Hutchinson for psoriasis is:

℞ Acid. chrysophanic, grains x.
Liq. carbonis deterg. (Wright's), ♏ x.
Hydr. amm. chlorid., grains x.
Adip. benzoat., ʒ j.

Misce, fiat unguent.

At night the patient should wash the diseased surfaces free from all scales; then, standing before a fire, rub on the ointment, devoting, if possible, half an hour to the operation. This proportion of chrysophanic acid is not irritating, and stains the linen but slightly. With some cases, even a weaker chrysophanic ointment is entirely sufficient. Internally, Mr. Hutchinson prescribes arsenic, though he is not convinced that it is an important adjunct. *Archives of Surgery*, July, 1889.

The Treatment of Syncope.—In the treatment of syncope, the first step is to place the patient in a recumbent position flat on the back, with the head low. The clothing should

to contract around the neck and hold the arms of boat so closely to the body that no water can enter. Life preservers should be kept at a distance. Inflatable mattresses or air cushions are valuable and handy as wherever should be manufactured or sold, suitable may be obtained. Cold water may be looked on in the same way as medicine, being very useful, and in many cases the heart caused to beat. If recovery ensues, the heart's beat becomes more distinct, the pulse returns to the wrist, and unconsciousness slowly returns. It is well to note when the heart is too badly damaged as where there is any extensive rupture of the muscular tissues, or the valves are badly diseased or where too much blood is drawn off that resuscitation fails to take place.—*The Times*, in the *Yokohama Medical Magazine*.

Treatment of Epilepsy and Chorea by the Subcutaneous Method.—This subject has been quite recently brought to the attention of the New York Neurological Society in a paper presented on this much mooted question by a committee who had been appointed to investigate the treatment of same. This report is descriptive as to the symptoms of the two diseases and shows by the symptoms of epilepsy before. The subcutaneous as it is as follows:

"We cannot but express the opinion that, so far as the investigation has warranted a conclusion, this method does not afford a sufficient degree of value to justify sufficient, hence, time and attention to warrant its adoption or recommendation by the members of the Neurological Society as a method of cure, or as a definite therapeutic measure."

The Administration of Quinine.—In the administration of the drug we have some difficulty, though not as frequently as one would believe. I caution the strongly insist upon the fact that the results of the inability to get to be connected in preparing doses or foods for the sick. Due is the aim to be observed in the preparation of the pharmacist to be consulted, for the production of a well-preserved substance. I have made it a rule to prepare and have all the children mixed with an equal quantity of orange syrup, and with such preparations I obtained the preparation of the syrup, and it was watched carefully. I do not approve of the method of giving a child to relieve the children, while they rarely fail to administer a dose for the all time.—Dr. W. F. Waugh, in *Medical Record*.

Pure Acetic Ether and Chloroform in Asthma.—In all kinds of bronchial spasm, whether from asthma, which my patients obtain, is through the use of pure acetic ether and chloroform. I find that they will act as a preventive and cure the disease has developed paroxysmally on the night. Any one can make the discovery. I have no hesitancy in recommending them as nothing is used in their manufacture but the best pure acetic acid and the best of chloroform. A one-ounce vial inhale with an ordinary atomizer.—Every Day, Dr. E. D., in the *Medical News*.

Medical Progress.

Formulæ: A Critical Study.[1]—In May of this year there was placed in my hands a supply of the concentrated tincture of cimicifuga. My studies of approximate the results of which had modified the treatment of acute bronchitis and given a clearer idea of the characteristics which an expectorant should possess, led me to seek further to find one which should be effectual in doses given at longer intervals and without the addition of a bromide which is frequently objectionable.

The source of the drug remains a the bark of an undetermined species of Cimicifuga, which was discovered in Bolivia in 1881 by the eminent botanist, Professor E. E. Bailey, of the College of Pharmacy, who first brought specimens to New York. This species was first described by Dr. N. L. Britton, of Columbia College, in the "Bulletin of the Torrey Botanical Club," 1885, page 181, under the name of *Cimicifuga Baileyi*, on the supposition that it was a new genus belonging to the natural order Ranunculaceæ. In the subsequent acquisition of complete specimens, Dr. Britton at once recognized the true affinities of the plant as being with the genus *Actæa*, natural order Ranunculaceæ, and referred it with some doubt to the species known as *Actæa elata* (Nuttall). While it is certainly a *Actæa*, there is much difference of opinion as to the species. Dr. Baily Hopkins observes that its characters resemble in certain ways all known species of that genus, in which I may remark nearly all the species are separated by very minute differences of structure. The tree is described as reaching an extreme height of some thirty or forty feet, and a trunk diameter of nearly three feet. It is low and broadly spreading in habit, resembling the symmetry of a large apple-tree. The bark is thick and soft colored, the outside rough and with considerable age. The larger branches are horizontal, the ultimate ones somewhat erect and bearing the leaves and flowers at their ends. The leaves are pinnate, bearing some resemblance to those of the common walnut, but much larger, being a foot and a half or more in length by two thirds of a foot broad, and bearing from five to seven pairs of oblong obtuse leaflets, the largest of which are six or eight inches in length. In the axils of these leaves appear the loose racemes of flowers some eight or ten inches in length. The flowers are small, scarcely larger than the head of a small pin-head, with the parts in fours, of a dull greenish color, very inconspicuous, and are succeeded by a somewhat woody fig-shaped fruit as large as a walnut. It contains four seeds, one or more of which are commonly undeveloped as it matures, and one or two good seeds.

Professor Bailey's description and figures in the "Druggists Bulletin," last page 201. The characteristic peculiarity upon microscopical examination is the appearance of large resin or latex cells surrounding a peculiar yellow vascular substance on which the medullary properties of the bark may depend.

No elaborate chemical investigation has yet

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[1] Read before the Section on Theory and Practice of Medicine of the New York Academy of Medicine December 7, 1886.

been undertaken, so that it is impossible to say with certainty to what constituent its medicinal properties are due.

Its physiological action, when the drug has been given in the crude state—*i. e.*, in the form of the powdered bark—is the production of nausea and a desire to vomit, with a metallic taste in the mouth, within about half an hour after the administration, and lasting an hour, the nausea being accompanied by an early discharge of mucous and afterward by dryness of the throat. It may be accompanied by slight dizziness, but not by headache. There is a desire to defæcate, which, however, may be restrained. Further, slight perspiration has been observed. Its action, then, may be stated to consist of stimulation for some hours of the vessels and glands of the mucous surfaces, more especially of the respiratory tract, with subsequent diminution of activity (sedation). This action probably takes place because the drug is eliminated by way of these tracts. In the administration of the drug in the form of the concentrated tincture, sneezing and discharge of nasal mucous have not been observed, and the effect upon the throat is not so marked as when the powder is used.

The preparation employed was the concentrated tincture of the bark,* the dose varying from half a fluid drachm to two fluid drachms, administered every two to eight hours. This preparation was the one with which the experiments were commenced, and for the sake of uniformity it was continued. I believe, however, that the fluid extract, made by Parke, Davis & Co., in doses of from five to twenty-five minims, at the above-mentioned intervals, would, on account of the avoidance of alcohol, be more satisfactory in acute, and probably also in chronic, diseases. Many of the cases reported were demonstrated before my class of matriculates in clinical medicine of the Post-Graduate Medical School, who have had abundant opportunity to verify both the physical signs and the results of treatment.

In comparing my cases with a similar series treated with apomorphine, it can be said that apomorphine acts more upon the blood-vessels, cocillana more upon the glands; hence the secretion produced by the latter is more mucoid. So, again, in cases seen before forty-eight hours of the disease have elapsed, apomorphine will relieve more quickly, but in cases seen for the first time at a late period, cocillana should be preferred. While watery secretion is not established usually under three to six hours from the first dose, in place of the half to one hour after apomorphine, yet the effect of a single dose will last at least three times as long as after the use of the latter drug. Consequently the intervals at which cocillana is given can be prolonged, or expectoration can be quickly established by apomorphine and continued by cocillana. The rhythm of the respiratory act is affected only so far as freer expectoration lowers the respiratory rate. That the expectorant effect of cocillana is not the first stage of nausea, is shown by the fact that an increase of appetite is usually observed even under the administration of full physiological doses, and under them indeed the fullness of the pulse is not changed.

Cases of Chronic Bronchitis.—In addition to the cases recorded below, in seven others the patients came complaining of a dry, ineffectual cough, which was doubtless relieved, since they did not return for further treatment.

It is probable that in subacute and chronic dry bronchitis we find the larger field for the use of cocillana. The facts are, that its expectorant effect is surer than that of either apomorphine or ipecacuanha in liquefying bronchial mucous; that it increases the appetite, not because the drug itself acts like a simple bitter, or its menstruum (alcohol) irritates the stomach, for the fluid extract is equally reliable in that direction; and that the drug is a laxative, perhaps by stimulation of the intestinal muciparous glands. Further, the expectoration is not so much influenced by warm diluent drinks as that of apomorphine, ipecacuanha, or carbonate of ammonium is, although cocillana itself will produce a slight perspiration. In chronic bronchitis with viscid expectoration, cocillana will render the sputum liquid somewhat more surely than ipecac, and it has the further advantage of not causing nausea. At times also, the formation of mucous seems to be checked.

On the other hand, in cases of senile bronchitis, particularly in cases of calcified costal cartilages, it may so markedly add to the bronchorrhœa that it becomes absolutely dangerous, and particularly because it is not a stimulant to the respiratory centre, like belladonna and strychnine. In these cases, then, it is useful only so far as it liquefies secretion. It is in these cases, and particularly those with dilated right heart, that we find strychnine and carbonate of ammonium so useful. Cocillana is not an antiseptic any more than ipecacuanha, so in cases of foul expectoration neither drug is a complete remedy.

In these cases, cocillana has almost its only use in liquefying secretion and relieving the acute exacerbations of associated chronic bronchitis. Under its use, the cough and expectoration diminish, and the night-sweats, inappetence, and constipation are relieved. In general, for the reasons given above in discussing chronic bronchitis, cocillana is preferable to ipecacuanha. Naturally, when cough is due to pleuritic exudation, or is laryngeal or pharyngeal, cocillana will fail, as will all the other expectorants. In the latter instances, I doubt if local applications of cocillana would be effectual.

I believe cocillana to be superior to apomorphine, except in the cases of acute bronchitis, when taken within the first forty-eight hours. It is certainly preferable to ipecacuanha in that it does not so readily cause nausea and a metallic taste in the mouth, and assists the regular movement of the bowels. It must yield to carbonate of ammonium in chronic senile bronchitis, although the heart-beat and the pulse become stronger under its use, and it can not stimulate the respiratory centre as strychnine does. It is immeasurably safer in any stage of acute bronchitis than pilocarpine, because it does not depress the heart's action.

In conclusion, I believe that it can fully replace ipecacuanha—which is now becoming expensive from exhaustion of the supply—in every sphere of action, and in many cases can be substituted with advantage for apomorphine, carbonate of ammonium, strychnine, and other drugs classed with more or less reason as expectorants.—R. W. Wilcox, M. D., in *New York Medical Journal*, Dec. 28th, 1889.

In the Journal of the American Medical Association, in a report of the proceedings of the New York Academy of Medicine, it is further stated, with reference to cocillana, that Dr. Rusby, the discoverer of cocillana, who was present by invitation of Dr. Wilcox, exhibited some of the bark of the plant, and also herbarium specimens showing the leaves and fruit. He then made some remarks, in the course of which he said it was his own practice, if a case of bronchitis came under observation early, to push the cocillana vigorously, giving from 15 to 45 minims of the fluid extract every hour, for twelve hours if necessary. At the end of six or seven hours it could usually be seen whether it was going to have the desired effect or not. In Bolivia his attention was first directed to the drug by the natives, As soon as he could get the opportunity, he commenced experimenting with it upon his friends, in doses of 20, 30 and 40 grs. of the powdered bark; and he found that the native accounts were for the most part fanciful. He found, however, that they sometimes gave it in such enormous doses as to destroy life by the vomiting it occasioned. He said, in conclusion, that he had anticipated that cocillana would prove a very useful remedy in pharyngitis and laryngitis, as well as in bronchitis; and in this he had not been disappointed.

On the Treatment of Scarlet Fever by Chloral Hydrate.—It is my wish to bring to the notice of the profession an efficient method of treating scarlet fever not hitherto described. My account of this method is based upon a personal experience now extending over seven years. It therefore relates to cases and epidemics of every degree of intensity.

The most cursory review of the history of the treatment of this disease enables us to divide it, in common with that of the other acute infectious diseases, into three periods:

First, a period in which treatment was based upon the idea of depletion by means of general or local blood letting, emetics, purgatives, and diaphoretics. It is needless to say that neither experience nor an enlightened pathology support this plan.

Second, a period in which the treatment was based upon the administration of so-called specific remedies—a method which, having its origin at a time when not only, as now, our knowledge of the specific cause of scarlatina was most indefinite, but when even the germ theory of the infectious diseases in general still rested upon pure hypothesis—was wholly without scientific basis. The treatment of this period, earnestly advocated by different observers, as its various plans were, resulted in disappointment and failure, and has of recent years fallen largely into desuetude.

As a consequence of the reaction from the disappointed enthusiasm in regard to the second plan, a third method of treating scarlet fever came into vogue. This may be described as the rational, or expectant-symptomatic plan. It is advocated in the greater number of the recent text-books upon practice. The principles upon which it is based are familiar. They depend upon our knowledge of the self-limitation of the acute infectious diseases, and our ability, the result of the accumulated experience of the profession, to modify, within somewhat narrow limits, the intensity and the disastrous effects of particular symptoms.

The general adoption of this method of treatment at the present time, when a more exact knowledge of the causation of certain of the acute infections inspires the hope that the true methods of specific treatment may yet be discovered, is not so much a manifestation of theoretical disbelief in specific treatment, as it is an indication of our inability, up to the present time, to realize our expectations in this direction.

A plan of treatment which at once relieves the more urgent symptoms of the disease, and anticipates their development, fulfills in a high degree, the more important therapeutic indications. If any such plan realizes to some extent the requirement for a specific medication, its value is proportionately enhanced.

Such is the plan under consideration.

It consists chiefly in the administration, from the outbreak of the scarlet fever until defervescence, of small and frequently repeated doses of chloral hydrate. The administration of this drug in acute disease for the relief of restlessness, and for the promotion of sleep, is familiar. It is, in fact, a matter of every-day occurrence, especially in the treatment of diseases of children, who bear chloral remarkably well. Simply to advocate its use for these purposes would be to occupy unnecessarily the attention of the readers of this journal. The use of chloral which I am about to describe is not only very different, but is based upon a wholly different view of its effects in this disease. Chloral, under this method, constitutes the drug employed from the beginning to the end of the febrile stage. If other medicaments are used, it is for the purpose of meeting special indications not fulfilled by the chloral, or to counteract certain effects of the chloral, which, when exaggerated, are unfavorable.

The plan is as follows: So soon as the patient is suspected or known to be developing scarlatina, a laxative dose of calomel, proportionate to the age and general condition, is administered. Shortly thereafter chloral is given, in moderate doses, at intervals of two or three hours, or longer, throughout the attack. The dose varies with the age of the child; the frequency of its administration depends largely upon its effect. To infants of two or three years, a dose of from one to two grains may be given, the dosage being gradually increased with older children; that for adolescents reaching five grains. The tranquilizing and sleep-producing effects of the drug are in most instances promptly realized, the patient falling into a condition of quietude or somnolence, in striking contrast to the discomfort and jacitation which are so distressing in the well-developed disease.

The repetition of the dose should not be more frequent than is necessary to maintain this condition of quietude, a condition from which the patient may be easily aroused, and into which he quickly relapses when undisturbed. It is neither necessary nor desirable to push the drug to the establishment of a deeper sleep. Profound narcotism is, of course, to be avoided. The patient may thus be kept in a condition of light repose throughout the whole duration of the fever. By this means, not only is there obtained relief from the restlessness and distress of the active period of the disease;

but much wear and tear of the nervous system and some exhaustion from muscular effort are prevented. Delirium is controlled; the itching and burning of the skin due to the eruption are allayed; in a word, the greater number of the distressing symptoms of the disease are favorably influenced by the cautious and prolonged administration of chloral hydrate in efficient doses.

As a rule, the drug is easy of administration and well borne by the stomach. I have found its acrid after-taste best masked by the administration in Aubergier's syrup of lactucarium diluted, thus:

℞ Chloralis, grains xxx.
Syrup lactucarii (Aubergier),
Aqua, ää ℥ jss.

M. Sig.: A teaspoonful in iced water every two, three, or four hours.

The administration of nourishment immediately after the medicine is desirable. The sleep-inducing properties of the drug manifest themselves rapidly, but are not prolonged; therefore, its repetition at intervals of two or three hours is called for.

The elimination of the drug takes place chiefly by the kidneys, and to a large extent as chloral. Decomposition with the formation of chloroform does not, as Liebreich anticipated, take place within the organism. This fact is of some theoretical importance, in view of the well-recognized antiseptic properties of chloral. Chloral acts, then, as a local antiseptic upon two tissue areas that are especially prone to the pernicious effects of the infecting principle of scarlatina. They are the throat and the kidneys. It cannot be claimed that chloral, in such doses as are safe, exercises to any great degree a specific antiseptic effect upon the fluids of the organism at large. Nevertheless, the continual presence of even small amounts of chloral in those fluids may be held to exert to some extent an influence upon them unfavorable, so far as it goes, to the development of bacteria.

The local action of chloral in these doses upon the throat in ingestion, and upon the kidney in elimination, is direct and efficacious, as shown by the lower grade of intensity of the inflammation of the palatine arches and tonsils on the one hand, and by the almost constant absence of albuminuria on the other. The diuretic action of chloral is almost invariably manifested, the urine being much increased in quantity, of lower specific gravity, light-colored and faintly acid. The diuresis is sometimes enormous, reaching from 50 to 80 fluidounces in the course of twenty-four hours. In a large number of cases, intercurrent albuminuria was rarely encountered, and post scarlatinal nephritis was not observed, although the cases were kept under observation for prolonged periods.

Chloral, in the doses given, appears to exercise no influence upon the primary temperature curve of the disease, defervescence taking place between the seventh and ninth days by rapid lysis, as is usual.

Otitis media, extensive adenopathy of the cervical lymphatics, the "collar of brawn," and abscesses, under this treatment do not occur. Hence, troublesome secondary fever, by which the febrile movement of scarlatina is often prolonged indefinitely, is prevented.

In the above doses chloral does not appear to be a cardiac depressant, exerting, in the earlier periods of the disease, simply a favorable influence upon the excited heart, similar to that of small and frequently repeated doses of aconite. If, during the course of the disease, especially at the beginning of defervescence, the heart flags, alcohol must be given. As a matter of fact, alcohol, in the form of milk punches, wine whey, or egg nogg, forms a useful addition to the dietary throughout the course of the disease.

From the beginning of the attack, the nasal passages and the throat are systematically treated by antiseptic sprays, such as weak dilutions of Labarraque's solution, Dobell's solution, Listerine, or the antiseptic tablets devised by Dr. Seiler. This is done from the beginning in all cases. I regard it as a prophylactic measure of great importance, preventing the accumulation and retention of the morbid products of the inflamed mucous membrane, and diminishing the risks of secondary mixed local infection, the cause of the throat and ear inflammations which constitute occasional complications.

From the time of the appearance of the eruption, innunction is practiced. For this purpose freshly-washed lard is employed.

If the arrangements are such as to secure thorough disinfection of the clothing before it is washed, frequent changes are permitted; otherwise, to avoid risk of contagion, the patient is allowed to wear the same night-clothes throughout the attack. After the child leaves the room, thorough disinfection is to be practiced by sulphur fumigation in the presence of moisture.

During the convalescence, quinine, nux vomica, and iron are indicated.

Whether or not other hypnotics, administered upon the same principles, would yield equally favorable results in the treatment of this disease, I cannot say. Chloralamid, among the recent synthetic narcotics, appears to be more efficient as a sleep-producer than chloral, and less dangerous; but we have yet no experience with it, nor does it possess the antiseptic qualities of chloral—Dr. J. C. Wilson in *Medical News*, Dec. 14th, 1889.

NOTE ON A NEW MODE OF APPLYING CHLORIDE OF METHYL.—Among the residual products obtained in the manufacture of alcohol from the molasses of beet-root sugar is trimethylamin, which, when purified and converted into a chloride, is decomposed by the action of heat into chloride of methyl, ammonia, and trimethylamin again. These are conducted into vessels containing hydrochloric acid, the ammonia and trimethylamin form salts, while the gas of chloride of methyl passes into a gasometer, from which it is compressed by an air-pump. The latter is largely used in France for the manufacture of methyl compounds, such as methylanilin and the new antipyretic exalgin (methylacetanilid). The tension of its vapor not being high, and not increasing very rapidly with the temperature, under a pressure of about six atmospheres its liquefaction is easily effected, and as a commercial article it is sold in the compressed liquid form,

in copper cylinders. In this liquefied condition it is a powerful refrigerating agent. When allowed to escape from the cylinder into an open vessel, it begins to boil, and in a few moments the temperature of the liquid is lowered by the ebullition about 75 degrees Fahrenheit below the boiling point of the chloride. It is therefore employed in the arts, like ether, for freezing purposes. For medicinal use, a pulverizer is attached to the portable cylinder, so that as the chloride is emitted, it vaporizes and produces intense cold. It can thus be applied in a direct stream which should fall obliquely, not perpendicularly, on any part requiring its congealing action, either as a local anæsthetic or for relieving neuralgia, sciatica, and other affections. Without the use of a pulverizer, the jet of gas is apt to take an uncertain direction, owing to the aperture becoming blocked with particles of ice.

Another form of applying it, is that in which the chloride of methyl is contained in a liquid form in what is called a thermo-isolator. If a little of the liquid chloride be drawn into a beaker, it boils rapidly and is volatilized almost immediately, but in the thermo-isolator it may be retained for some time at the ordinary temperature, so that tampons may be dipped in it and applied to any part of the body requiring its use. The thermo-isolator is simply a glass test-tube, fused at the top to a larger, outer, surrounding tube, with a vacuum intervening, which acts as a non-conductor of heat, or as it is termed, a thermo-isolator.

The application of chloride of methyl requires care, as if freely used, it is liable to cause ecchymosis; but it appears to be non-poisonous, as I recently witnessed in Paris a patient suffering from facial neuralgia apply a jet of it freely along the lower jaw and side of the face, afterwards repeating the process along the gum inside the mouth. This he applied daily, and said it was the only thing that gave him relief. —W. Martindale, F. C. S., in *Pharm. Jnl. and Trans.*

A New Antiseptic Dressing.—In an address delivered before the Medical Society of London, and published in the Lancet of November 6, Sir Joseph Lister details a series of experiments undertaken with the view of perfecting the antiseptic method of which he is the well-known author. The great objections to the use of corrosive sublimate and the biniodide of mercury have been, their irritant and toxic properties when employed in sufficient strength. These effects are not shared by the double cyanide of mercury and zinc—the new antiseptic recommended by Lister.

The double cyanide requires three hundred parts of blood serum to dissolve it, and if it is present in the gauze in the proportion of about three per cent., blood serum may soak through such gauze without washing all the ingredient out. It is therefore a material which is admirably stored up in the dressing, while in the case of corrosive sublimate, the discharge permeating the successive layers of the dressing dissolves out the antiseptic and becomes so highly charged with it as to prove intensely irritating to the wound and surrounding parts. Aside from these advantages, the double cyanide is completely trustworthy. In actual practice, the few layers of gauze placed next to the wound are washed in carbolic solution, this dissolving out the corrosive sublimate, which though present in small amounts might produce some irritation of the wound. The carbolic acid soon flies off, and there is left next the wound merely the unirritating cyanide.

Professor Lister has employed this antiseptic in his surgical work at King's College Hospital during the course of the year, and his results have been of so satisfactory a character as to warrant him in recommending it to the profession. In not a single instance was deep-seated suppuration or septic inflammation observed under its use, and in a case of psoas abscess at present in the hospital, the disease has run a perfectly aseptic course after the evacuation of the purulent contents. In this man's case, the author states, the temperature has never been affected in the least; he has put on flesh rapidly, and the discharge, after the purulent and curdy matter that existed originally in the abscess was got rid of, has been of a serous character and in small and diminishing quantity.

The Cerebral Complications of Ear Disease.—Dr. Otto Korner, of Frankfort, points out that all the cerebral complications of ear disease are more frequent on the right than on the left side. Thus, of 31 cases of cerebral abscess, 18 occurred on the right side from disease of the right ear, and 12 on the left from disease of the left ear, and in one case there was abscess on both sides following disease of both ears. Similarly, of 61 cases of thrombosis of the lateral sinus, 35 were met on the right side and 26 on the left. Of 23 cases of meningitis from ear disease, 17 affected the right side and 3 the left. Adding these together, we have a total of 115 cases, of which 70 were on the right side, 44 on the left side, and 1 bilateral. Körner traces the greater frequency on the right side to the fact that the groove for the lateral sinus passes further forwards and outwards into the petrous and mastoid bones on the right than on the left side. The bony wall separating the sinus from the mastoid antrum is therefore thinner on the right side. Added to this is the fact that in brachycephalic skulls the anterior cerebral fossa is considerably nearer the mastoid antrum than in the dolichocephalic. In the former, cerebral complications of ear disease more readily ensue than in the latter.—*Deutsche Med. Zeitung.*

Poisoning with Henbane—Mr. A.H. Dodd, L. R. C. P., of West Brighton, England, publishes notes of a case of poisoning with 6 fluid drachms of tincture of henbane. The sufferer was a lady of 50, and the symptoms of poisoning were so acute that it was only with great care that a fatal result was averted. Five hours after taking the tincture the patient was quite delirious; later, owing to vomiting, she recovered somewhat, and was practically cured after a night's rest. It is a remarkable fact that a slight deafness with which she was troubled, was much aggravated whilst under the influence of the drug.—*Chemist and Druggist.*

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Original Articles.

ANTISEPTIC SURGERY.*

BY AP MORGAN VANCE, M.D., LOUISVILLE, KY.

In am pleased that the Secretary has named the subject of this paper for me, as I am always glad to be able to get in a word in furthering the good cause of antiseptic and aseptic surgical work. The great progress of surgery in the past ten years has been just in proportion to the increased understanding and confidence in the power of these methods of wound treatment.

There are a number of difficulties in the way of the general practitioner doing an antiseptic operation. In the first place, "it is hard to teach an old dog new tricks," and if the trick is not learned perfectly, even to the most minute detail, it is about as bad as if not learned at all; that is, the imperfect effort is worse than no effort, not only because it gets a good thing into bad repute, but is discouraging to the individual. Second, it requires some extra expense over the old way; and, moreover, constant care is needed to keep the essential paraphernalia in proper condition.

The fact that the new method is so much better than the old, is so fixed that no man can now conscientiously neglect to become master of the technique and detail of antiseptic procedures. I am convinced that the day is not far distant when a man will be ashamed to admit the formation of pus in a wound of his making. And I am now always ashamed of such a result, as I recognize that it is due to some neglect of mine.

Before continuing, I will define the terms *antisepsis* and *asepsis*. It is well understood and admited by all, that the wound-infecting germ comes from without. An aseptic wound is, therefore, one that through its course has not had this germ enter it, or if the germ has entered, it has been removed or rendered inert by some means. Antisepsis is the means or process by which a wound is made and kept aseptic, either by chemical or other agents.

Some will ask, why bother with antisepsis; why not be satisfied with asepsis?

Because we can never tell when the germ has entered from the air or elsewhere, and we must give the patient the benefit of the doubt. Admitting, for the sake of argument, that it is not established that there is any true germicide action in the drug used, it is, however, a perfectly established fact that the men who are most strict in antiseptic details obtain the best results. Thus the argument is at once closed, as the welfare of the patient is the first consideration.

How is the technique to be learned?

By reading the journals of the day, and making trials of the methods there described. New books are constantly being written on the subject — two recently published have, I will wager, saved more lives by their teaching than the years which have been added to the life of woman by the operation of ovariotomy, originated so long ago by the man for whom your Society is named. These are, Gerster's work on "Aseptic and Antiseptic Surgery," and the "Surgery" of John A. Wyeth.

I will now, by a series of Dont's, try to impress upon those of you unfamiliar with the importance of the little things in this kind of work, and then report a case or two illustrative of the results to be obtained:

Don't fail, when possible, to have a general bath before doing a major operation!

Don't do any operation with suspicious hands! Hot water, soap, nail brush, and a penknife, should be carefully used by the principal and assistants before any operation. It is best to cut the nails *very* short, so there will be no place for germs to lodge.

Don't, just before or during an operation, put your fingers about your nose, eyes, or ears, use your handkerchief, or shake hands with any one! It is better even to offend a visitor than to run the risks of infection.

Don't, during the operation, pick up, or allow your assistants to touch, any instrument, sponge, or suture, that has fallen upon the floor!

Don't bite off the end of a suture that it may the more easily be threaded!

Don't put your knife, or other instrument, in your mouth, or behind your ear, preparatory to its use!

Don't fail to detail some one to wipe your face during a long and laborious operation!

Don't cough or sneeze over the operation field! Consequently the use of tobacco or the

* Read at the 29th semi annual meeting of the McDowell Medical Society, Henderson, Ky., Nov. 11th, 1889.

presence of a cuspidor should be forbidden in the operating room.

Don't fail, when possible, to have the patient bathed, and clothing changed, before an operation! When this is not possible, thoroughly cleanse the field, and never make or dress a wound where the surrounding parts have not been thoroughly shaved.

Don't, after the patient is prepared, allow any visitor to handle the field of operation, unless he is aseptic.

Don't allow visitors who are doubtful, *i. e.*, who are attending patients with gangrene, erysipelas or puerperal fever, etc., unless they have taken all precautions!

Don't fail to have the field surrounded by warm, sublimated towels!

Don't use instruments with roughened handles, or instruments likely to be injured by boiling or baking! Metal handled instruments are best; those that hinge should have the French lock, so as to be easily cleansed.

Don't fail to scald instruments after each operation. When the field is at all septic they had better be baked.

Don't, under any circumstances, ever consider an instrument cleansed, even after minor operations (opening of bubo for instance), by merely wiping with cotton or cloth.

Don't use aseptic ligatures and sutures not properly prepared; they are often the source of sepsis. Those furnished by the surgical supply houses are as a rule reliable, especially as they are now sold in sealed bottles, filled with an antiseptic fluid.

Don't fail to have pure water—*distilled* first, *filtered* second, *boiled* third. When time is allowed, the latter may be further purified by the addition of alum, which precipitates the organic matters. Corrosive sublimate, 1 to 3000, should be added to the water, except when contra-indicated.

Don't fail to know the history of your dressing; hygroscopic gauze, absorbent cotton and wool, are the sheet anchors. In their preparation, corrosive sublimate and iodiform rank first; boracic and carbolic acids next. Never use old linen furnished by the family.

Don't fail to have properly prepared sponges: either gauze, or cotton, or silk sponges serve the purpose best. Never accept as a compromise a family bath rag, or sponge.

Don't be in a hurry to redress your wounds. The only excuse for redressing within a week (amputation for instance) is hæmorrhage, evidence of sepsis, and the removal of the drainage tube—if a non-absorbent one has been used. Often, where these reasons are not present, they may go as many as 14 to 21 days without removal of the primary dressing.

The following cases have occurred within the last three months, and will aptly illustrate the value of antiseptic surgery:

CASE 1.—Oswald M.; aged 10; a delicately constituted boy, on August 18th, 1889, fell from a tree.

In the fall, his right arm was thrown beneath the body in such a way as to cause a simple fracture of both bones, two inches and a half above the wrist joint, and a compound anterior dislocation of the elbow—the lower end of the humerus protruding fully four inches through an oblique wound towards the inner side of the flexure.

Besides the bone, there were one or two muscular shreds protruding.

I saw him, one hour after the accident, in consultation with Dr. Dunlap, to whose office the sufferer had been conveyed.

The Doctor had removed the clothing from the part, and, seeing the extent of the injury, simply covered it with carbolized cotton, considering primary amputation absolutely necessary.

There was present marked evidence of shock, and I was at first of the same opinion as the Doctor, as the hand was blue and cold, with no evidence of pulsation below the elbow.

The child was chloroformed, and both fractures and dislocation adjusted without difficulty; considerable hæmorrhage occurred when the dislocation was reduced, but it appeared to come only from the cavity caused by the displacement, and was not prolonged. The hand almost immediately became rosy and warm, both vessels pulsated, and after thoroughly irrigating the wound, and clipping away the muscular shreds, we determined on conservatism. A full antiseptic dressing was applied, without drainage, or suturing the wound; over this an internal and external right angular splint of leather, supplimented by short wooden splints extending three inches on either side of the fracture, the whole being covered by a crinoline bandage.

The boy did not suffer, practically, from any constitutional disturbance, the temperature never reaching 100° in the mouth.

This primary dressing was not touched until the 14th day. There was no complaint of any pain or other discomfort.

Three weeks from the time of the injury, the little patient was shown to the Louisville Medico-Chirurgical Society, with the wound healed, no swelling or pus having ever been present, the first dressing being soiled simply by serum, or synovial fluid.

At this time there was voluntary motion over an arc of more than one-half the natural; pronation and supination normal. The arm has gradually improved up to date, and is now practically as good as its fellow.

CASE II.—Albert F.; age 32; tin roofer; fell from third story roof, September 14th, 1889, into a pile of large building stone. After recovering from momentary unconsciousness, he

was able to sit up in an open wagon, and ride three miles to my office.

He suffered somewhat from shock upon getting into the operating chair, and, on removing the clothing from the left forearm it was found to be terribly injured. There was a complete compound dislocation forward of the ulna and radius from the carpal bones, the semilunar protruding with them through the opening. This same opening was found to connect with a fracture of both bones, two and one-half inches above the wrist; then, on the ulna side, half way between the wrist and elbow, was another ugly opening communicating with the fracture of both bones. The whole arm above this, and about the elbow joint, was greatly swollen, the swelling being due to hæmatoma. There were no other injuries of importance, though the little finger of the same hand was fractured. It appeared from the condition of the parts that primary amputation was indicated; but, on naming it to the patient, he remarked: "You might as well cut my throat Doctor." I therefore, after consultation with Doctors F. C. Simpson and Charles Allison, determined to try and save the limb, giving, however, an ugly prognosis, and expecting to do a secondary amputation, thinking that obstructive gangrene would most likely supervene.

The man was chloroformed, and after removal of the semilunar bone, which was merely hanging by slight attachments, the dislocation was reduced, and the broken fragments adjusted and molded into position as well as was possible.

The whole arm was then thoroughly cleansed, the wounds irrigated with a 1 to 3000 sublimated solution, and a rubber drainage tube inserted at the lower opening. A number of small fragments of bone were removed from either wound; and, finally, a full antiseptic gauze and cotton dressing applied, over which light anterior and posterior splints were confined with a crinoline bandage.

The man rallied nicely, and in 48 hours after the injury a second dressing was applied and the drainage tube removed.

It was found impossible to manipulate the arm without great pain and injury to the patient, owing to displacement of the fractured ends of the bones. To avoid this difficulty, I used plaster-of-Paris by the Bavarian method, inclosing two-thirds of the arm without removing it from the primary anterior splint. When this had hardened, the anterior splint was easily removed, and a few circular turns of the plaster dressing were applied over a new antiseptic dressing.

Subsequent dressings of the wound were made by means of fenestra.

This man progressed just about as well as Case I, and at this date is assured of a good, useful arm, all the injuries being about healed.

This is the most extensive injury of the kind I have ever seen successfully treated by conservatism.

I failed to say that, since the swelling has disappeared, evidences of a fracture near the elbow, which was marked by the presence of the hæmatoma at the primary examination, were found.

CASE III.—Thos. McD.; carpenter; aged 26; Oct. 2d, 1889, fell 55 feet from the top of the new Athletic Club House, Louisville, the only injuries sustained being a compound dislocation of the right wrist, the semilunar protruding with the ulna and radius, the whole being driven into the ground fully half way to the elbow, and thoroughly besmeared with the dirt of a recent fill.

Four flexor tendons were torn from their muscular attachments, and hung in shreds over the hand. The hand was blue and cold, and a primary amputation seemed to be absolutely demanded.

After removal to the Norton Infirmary, two squares away, and explaining to the patient the risks of conservatism, he begged that every effort be made to save the hand.

He was chloroformed, an effort at thorough cleansing made, and the bones with great difficulty reduced, the semilunar first being removed. Notwithstanding the fact that the wound through which the bones came was one half the circumference of the wrist, there was no evidence of injury to nerves or major vessels.

The hand warmed immediately, and after clipping away, as far toward their distal extremity as was possible, the flexor tendons, it was determined to try to grant the patient's request; and the hand and arm were placed on an anterior splint, a full antiseptic dressing being used.

Forty-eight hours afterwards, evidences of obstructive gangrene were marked, the area of involvement rapidly spreading, so that when secondary amputation was done, just below the shoulder joint, it was through very nasty and gangrenously engorged tissue, the dusky color having passed on to the chest.

Notwithstanding this fact, 72 hours afterward, when the man died of tetanus, the amputation wound was found perfectly healed, with no redness or signs of pus; the drainage tube was removed at the end of 24 hours.

This case tends to prove the microbic origin of tetanus, the source of the microbe being garden earth.

HÆMOGLOBIN COMPOUND, OR BULLOCK'S BLOOD IN THERAPEUTICS.

BY F. E. STEWART, M. D., PH. G.*

For the past ten years I have been experimenting with bullock's blood as a therapeutic agent. My attention was attracted to the subject by the excellent results obtained in some cases by those employing blood as a beverage while suffering from wasting diseases. I have frequently seen anæmic persons become plethoric by drinking four or five ounces of blood daily for five or six weeks; and in subsequent experiments with this article, I have found that a half-ounce, or even less, in twenty-four hours, for a month or more, seemed all that was necessary to start the balance-wheel of life again into motion when at the dead point.

While engaged in these investigations I became acquainted with Dr. Andrew H. Smith, of St. Luke's Hospital, New York. One day, when at the hospital, I saw a quart bottle of fresh blood, and on inquiry found that Dr. Smith was using it with great success as a rectal aliment. I called on Dr. Smith, and presented to his notice an article which I supposed I had invented, viz., desiccated blood. This was subsequently named *Sanguis Bovinus Exsiccatus;* and with that name it has passed into literature. [See New York Medical Record, Jan., 1881, and reference thereto in the U. S. Dispensatory, fifteenth edition.]

Dr. Smith took great interest in the desiccated blood, and suggested a formula for its internal administration, containing whisky and glycerin. He also called my attention to papers of his, read before the New York Academy of Medicine and the New York Therapeutic Society, and the high endorsements his use of blood had received from various authorities.

Soon after this, Messrs. Parke, Davis & Co., of Detroit, took the matter up, made arrangements to supply the desiccated blood to the trade, and reprinted my literature and that of Dr. Smith.

So much interest was attracted by the various publications, that Dr. Le Bon (Journal de Therapeutique) protested against the claims made for Dr. Smith and myself, that we were the introducers of desiccated blood. Dr. Smith never made such a claim. As for myself, as was published a description of a similar preparation, in the *Comtes Rendus*, in 1875, notices of which appeared at the time in all the French journals, I shall have to give Dr. Le Bon precedence.

The question of priority, however, is not of as much interest to the medical profession as whether the article is meritorious. Of its merit there can be no manner of doubt. Every investigator who has used bullock's blood as a remedial agent in a sufficient number of properly chosen cases to make his opinion of any value, agrees that it often saves life when every other means has failed. The two following cases, are reported by Dr. O. H. Allis, of Philadelphia:

"The first case was that of a man 70 years of age. He was very feeble, and lay upon a water-bed to avoid bed sores. There was a slough in the perineum which partly involved the scrotum, and urine dribbled from this region. He was too feeble even to justify an examination, and my only expectation was to make comfortable until death should relieve him. I put him upon the blood, giving him a teaspoonful at first, and increased to an ounce, three times a day. It seemed to be just what he needed. He soon gained strength, became cheerful, and could walk about in two months.

"The second case was young man, 23 years of age, with necrosis of the lower third of the femur, chronic synovitis of the knee joint, and secondary involvement of the contiguous tibia. There were openings leading to the femur, and from these, exhausting offensive discharges, sometimes bloody, kept the poor fellow in a condition that forbade any reasonable hope from amputation. Two of my colleagues concurred in my view that possibly he might be a gainer from the attempt; but before resorting to this, I ordered his urine examined. This proved to be largely albuminous, and Bright's disease was declared to be present by Dr. Slocum, who first examined it, and by Dr. Seiler, the pathologist of the hospital. From day to day the patient failed. He could retain but little food, often vomiting his milk, beef tea and medicines. When in his lowest state, having just had a hemorrhage from the thigh that rendered constant watching necessary, vomiting almost everything but milk, and often rejecting that, he was placed upon the blood—at first a tablespoonful, and by degrees increased to an ounce, three times a day. In not a single instance did he vomit the blood (he could not take it per anum, as it produced a diarrhœa) and in a few weeks his appetite returned, he left his bed for a chair, and later was able to go on crutches about the ward. There was no noticeable effect upon the amount of albumen.

"My views of the blood are, that it must be easy of assimilation, and I shall be ready to give it a further trial in cases of exhaustion and vital depression, mal-assimilation—cases in which the important problem is to give food."

But desiccated blood has never fully satisfied me, 1st, because it is impossible to disguise it wholly; 2d, because after a certain time the scales become so dry and hard that its solution is affected with greater difficulty. After a

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great many experiments I discovered that a mixture of fresh blood, extract of malt, glycerin, and spirits, furnishes a compound that will keep indefinitely, and in which the blood is absolutely disguised. The proportions of the compound may be varied considerably, but three ounces each of blood and malt, to which is added an ounce each of whisky and glycerin, does very well.

The great difficulty is to secure fresh blood when wanted. I therefore suggested to Messrs. Parke, Davis & Co., the advisability of placing a ready made compound on the market. The name I suggested is *Hæmoglobin Compound.* After a series of experiments extending over several years, this house is now prepared to furnish *Hæmoglobin Compound* in half pint bottles.

In addition to the points I have already made concerning this improved preparation, I may mention the fact that this compound contains a sufficient quantity of hæmoglobin to be of excellent service in supplying the blood of patients with that most essential element. Whether the hæmoglobin is absorbed from the stomach as such, I do not know, but I do know that patients who take it frequently gain rapidly in color and flesh. It is possible that the amount of easily assimilated food taken in this way, and the stimulating power of the mineral salts and extractive matters in the blood, may account for the effects produced, but I am disposed to give the hæmoglobin part of the credit at least. Another point in favor of the combination is the nutritive value of the malt, and the active nature of its contained diastase as an aid to digestion. Furthermore, the glycerin and spirits play a part in producing the favorable results.

But the principle point, after all, is that favorable results of high order are produced by taking hæmoglobin compound. For this reason I call it to the attention of the readers of the MEDICAL AGE. And I hope that my paper may be followed by others both to prove or disprove my claims, so that finally we may have the "truth, the whole truth, and nothing but the truth," about the matter.

PNEUMONIA AND ITS TREATMENT.

BY O. W. BRAYMER, A. M., M. D.

Acute pneumonia, or pneumonitis, is one of the most prostating and overwhelming diseases we are called upon to treat. While, perhaps, a greater number of the cases are accompanied with prodromata, such as anorexia, pain in back and limbs, flying pains in chest, hot flashes, etc., the great majority of attacks come, "as a thief in the night," with very little, if any, warning.

The patient is suddenly taken with a chill, more intense and prolonged in character than we find in any other disease, unless it may be septic intoxication, or pernicious malarial fever. This is followed by rapid rise in temperature, quickened pulse, and increased respiration. Sharp lancinating pains under the nipple of the affected side soon follow the chill. By inspection, we find the movements of the affected side more or less limited.

In this we have an acute, general, and no doubt contagious, malady to contend with, and it must be treated accordingly,

First, we must look carefully into the surroundings of our patient. Absolute rest, in apartments well ventilated and free from exposure, is an important factor. Never be afraid of good pure fresh air in any disease, and especially in one of this character, where a portion of the lung tissue is so affected that proper oxydation of the blood cannot take place. Oh! for more good ventilation in our sick rooms! Many patients go to their graves with some technical term attached to their death certificate, when, if the truth were known, the real cause was a lack of *good fresh air*, which all could have if they were only permitted to take it. With all the attention to ventilation, however, do not permit the temperature of the sick-room to fall below 70° F.

In hospital wards, isolate the patient, and everywhere sterilize the expectorated matter with some suitable antiseptic. Order a suitable diet for the patient, such as milk, beef essence, eggs, etc.—the first two are always my preference—and, by all means, see that the food is given at regular intervals. In the early morning-hours the patient suffers the most from exhaustion, hence see that he gets nourishment at that time.

We must at the earliest possible moment begin to control the heart's rapid action, and keep as much blood as possible from the inflamed lung tissue. Venesection we pass by as too exhausting to the general system; aconite acts kindly on the inflamed tissue and slows the heart's action to some degree. But the most successful remedy which has thus far come to our notice, is veratrum viride. In this we have a medicament by means of which we can control the heart, as the engineer with the throttle valve controls his engine.

Courage and determination is, however, as important a factor in the former as in the later operation. Small doses given at long intervals will not succeed because the effect of veratrum soon reaches its greatest height. Give large doses—four drops every hour and a half—until the pulse is below eighty-five, then by regulating the dose keep the pulse at that level. When the pulse rate can be kept thus, never mind the temperature unless there are some untoward symptoms, then give analgesin in

from eight to ten grain doses every hour until the temperature is below the danger line.

As soon as the second stage, that of red hepatization, has become established, stop the veratrum, because here it will be of no avail. Of course any vomiting or like effects from its administration should be controlled by small doses of morphia. This later remedy should also be used to control all pain.

I do not advocate the cold bath or pack to reduce temperature, because there is a liability of chilling the patient and doing more harm than good. But I do use dry warm meal poultices, which protect the affected parts, keep them at an even temperature, produce diaphoresis, and control pain.

In the third stage, that of gray hepatization, sinapisms and stimulating expectorants should be used to assist resolution; and nervous manifestations should be controlled by opiates, or perhaps better, by appropriate doses of chloral hydrate. Stimulants should be used as the nature of the case suggests, but with care, as a promiscuous use is, perhaps, worse than none at all. Begin with small doses, giving just enough to keep the heart regular. Weak and irregular pulse with delirium are always indications for stimulants.

In fine, we must meet all indications in each individual case, which are as various as the characteristics of the patients that we treat. But from my experience, it seems that a courageous use of veratrum viride in the first stage, a proper amount of good fresh air, and a judicious use of stimulants with careful antiseptic surroundings, will lessen the number of deaths from this disease.

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FIRST EXPERIENCE IN OBSTETRICAL PRACTICE.*

BY J. E. SCOTT, STUDENT OF MEDICINE. UNIVERSITY OF PENNA.

When it became a certainty that I should be called upon to present a paper to this Society, I was sorely perplexed. Many subjects that have been well worked out by the profession suggested themselves, but to these I could not hope to add anything of value. Then, being only a candidate for a degree, I decided that I could not do better than to treat, in my own way, without any attempt at erudition, some of the puzzling points that were sprung upon me during a summer's obstetrical practice among charity patients, though none of the conditions were grave, and none, probably, would have caused any anxiety to the mind of the experienced obstetrician; to me, however, as one of the uninitiated, they developed an interest so intense as, in some instances, to border on alarm.

CASE 1.—This patient caused me much anxiety for two reasons: first, because it was my first case; second, because it was a delayed labor.

As careful a preliminary examination as I was capable of making—I had some previous practice in this—showed all the pelvic diameters to be practically normal, and that the parturient tract was not obstructed in the slightest. Abdominal palpation and auscultation, together with digital examination per vaginum, proved a vertex presentation in the left occipito-anterior position, and the size of the fœtus about normal. Thus, by exclusion, the trouble was clearly proven to be in the expelling powers of the mother; *i. e.*, *uterine inertia.* The patient was Irish, 32 years old, and this her third pregnancy. She had a drunken husband, idle and shiftless, who provided for her none of the comforts, and only part of the actual necessities, of life.

Her hygienic surroundings were bad, her clothing inadequate, and her food insufficient in quantity and improper in quality for her condition at such a critical time. As a consequence she was ill-nourished and in poor physical condition for her labor. Added to this, partially, perhaps as a consequence, she suffered from excessive nausea and vomiting throughout the entire period of gestation.

This unfortunate combination of untoward circumstances was certainly well calculated to produce a case of uterine inertia.

She had evanescent pains for two days before I was called, and though evidently in active labor, but little progress had been made. I watched by the patient for eight hours, during which time her pains were frequent, but weak and inefficient. I then gave her 10 grains of quinine, and in a short time Nature seemed to gather together all her failing resources for a final supreme effort; the result of which was, three good, strong pains, that were sufficient to expel the fœtus. After the delivery of the child, the pains ceased entirely, and my trouble began. The womb was firm and resistent, but took on no contractions whatever. I had followed the fundus uteri down with my hand during the expulsion of the fœtus, and now kept up slight pressure and friction while waiting for the pains that never came. At the end of an hour, I gave a drachm of fluid extract of ergot; a questionable proceeding, perhaps, but I was worried, and anxious to do something to get that afterbirth away, so felt inclined to drift away from my teachings.

I now concluded that *Crede's method* of placental expression was the proper thing, so set about its application as I understood it. Another hour passed by on leaden wings, attended by no perceptible progress. I now sent for

*Read before the D. Hayes Agnew Surgical Society.

the physician from whom I had obtained the case. But, it being midnight, and he being roused up out of his first sound sleep, excused himself as soon as possible, and I was left alone in the face of a dilemma which I knew neither how to face or to avoid. For three more long hours I waited, and in the meantime administered three-drachm doses of ergot; but the placenta still remained *in situ*.

I now sent another message to the doctor; and in the meantime, to add to my discomfiture, the patient's bladder became distended till it rose up in the abdomen as a twin tumor beside the uterine body. Pressure during the long labor had paralyzed the urethra and neck of the bladder so that she was unable to relieve herself. I had never passed a catheter—had never even seen one passed on a woman; but there was no choice, and my reputation was already on a rapid decline with the family. But by good luck—I can attribute it to nothing else, when I consider the distortion and swollen condition of the parts—I was able to pass a flexible male catheter without difficulty, to the immense relief of the patient. Soon the doctor came, and then I discovered that I had learned the theory of a method without any adequate conception of its practical application. I had been practicing *Crede's* method for seven long hours, using two or three pounds of pressure, without the slightest effect. He applied fifty pounds of pressure in the same way, and within half an hour the placenta was expelled, and I had learned another lesson.

From the subsequent favorable termination of this case, I felt that Nature was very indulgent and forbearing towards me; the long placental retention was accompanied by no hæmorrhage, and the conditions—though so unfavorable—gave rise to no complications, the temperature not going above normal, even during the establishment of lactation, and the patient made a rapid and uninterrupted recovery.

CASE II.—This was a case of *puerperal fever*. Certain eminent teachers argue, with a good deal of logic and parade of proof, that it is an *essential fever*—as deservedly such as typhus or typhoid. The best teaching of the present day is, perhaps, that puerperal fever is due to the presence of bacteria animalculæ that were designed to be the friend, and not the enemy, of mankind.

The patient was a Jewess, twenty-three years old; third pregnancy. I saw her soon after she had been delivered by a midwife, who had taken no precautions to prevent septic infection. I made the routine examination of the placenta and membranes, and was satisfied that everything had come away. Just here I feel that I committed a grave error, in not at once giving an intra-uterine douche of a 1-4000 solution of bichloride of mercury, or a 2 per per cent. solution of creoline, inasmuch as it is altogether probable that infecting germs had been carried into the vagina and uterus by the unclean hands of the midwife.

This case progressed in the ordinary way for three days; when I made my first visit on the morning of the fourth day, I found her suffering from a severe febrile condition; with hot, dry skin, a rapid, bounding pulse, a throbbing headache, injected conjunctiva, furred tongue, some abdominal tenderness, diminished and somewhat offensive lochia, and a temperature of 102°. Owing to my limited knowledge of the therapeutical application of remedies, I concluded to attack the temperature, so gave 15 grains of analgesin—so far as I was able to see it did not have the slightest effect. This was at 10 o'clock A. M. Two hours later the temperature had risen to 102.5°; the pulse was 120. In the meantime, I decided on a more rational method of treatment, viz: 10 grains of quinine, associated with an intra-vaginal douch of one quart of a 1-2000 solution of bichloride, every three hours; one-half ounce of whisky every two hours, and sponging of arms, chest, neck and thighs with cold water every hour. This was carried out rigorously. At 1.30 P. M., the temperature had reached its maximum, 103⅕°; at 6 P. M., it had sunk to 103°; and 9 P. M., to 102⅘°; at 9 A. M., the next day, it was 99°; at 5 P. M., 100⅘°; the pulse, all this time, keeping pace with the temperature. At my visit on the third day of this complication, I found both temperature and pulse normal; but the same line of treatment was continued, modified to some extent. There was no recurrence of bad symptoms and the patient made a quick and satisfactory recovery.

CASE III.—This was a case of *miscarriage* The history of specific disease was clear—in fact it was finally admitted. But the secondary lesions were developed four years ago, and I was unable to discover any tertiary lesions in any part of the body. Whether a patient, in whom the symptoms of the disease have remained latent for four years, would be likely to produce infected ova, the authorities do not seem to be clear. Neither was the immediate, definite cause that was operative in this case, clear, though it was probably either directly or indirectly due to the specific infection of the mother. In this fœtus there was no pemphigus on the palms of the hands or the soles of the feet; in fact, there was no characteristic eruption on any part of the body externally, and, as I wished to preserve this specimen intact, I looked for no internal lesions.

From the history given me by the patient of her last menstruation, quickening, etc., together with the length, size, and general appearance of the fœtus, I thought it had reached a point between the sixth and seventh month. It was born alive, and lived about twenty minutes, making a few faint efforts at breath-

ing. I did not sever the cord till it had ceased to pulsate. The labor was perfectly normal, the phenomena and mechanism being precisely similar to that at term, and required essentially the same treatment, only differing, in that it demanded a little more watchful care on my part, as in these cases there is increased danger of hæmorrhage, placental retention, and septic infection. These complications, when encountered, are to be met in the same way as in cases at term. Happily, none of these calamities happened in this case, though as a prophylactic measure I gave a 1 4000 bichloride douche every morning for a week.

The prevailing ideas and methods of obstetrical science, make the douche a matter of very frequent application. Of course this part of the attention to the puerperal woman is largely given over to the nurse—who is in this, as in everything else, subject to the doctor's orders. But the physician will often be obliged to attend to this very important matter himself, and the best and most convenient way to go about it, often becomes a question of some importance and no little difficulty. The clumsy methods sometimes adopted, must be very uncomfortable and unpleasant to the patient, as well as embarassing to the operator. Not long ago, in talking to a nurse who recently graduated from the Rotunda Hospital, Dublin—(one of the largest maternities in the world)—she said she always brought the patient's buttocks well over the edge of the bed, and allowed the escaping fluid to run down into a vessel placed on the floor to receive it. There are some conditions of the patient when so much disturbance would be exceedingly improper, and it must always seem inelegant and clumsy.

Kelly's pad, must be very convenient; but it is too bulky to carry to every confinement case, and aside from this, its cost is a matter of importance to most of us. I stumbled upon a contrivance during one of my first cases that simulates the Kelly pad very closely—having all its good points, and devoid of its bulk and cost. I claim no credit for this device and give it as "stolen goods," hoping that it will prove often-times useful.

All that is needed is a yard of rubber cloth—which can be had for 50 cents. Having this at hand, take a sheet, blanket, pair of pants, or anything that will make, when twisted up, a roll as thick as your arm and six or seven feet long. Place this roll on the bed beside the patient in the shape of a horse-shoe, with the interval at the edge of the bed. Spread the rubber over this, tucking the edges under, to bind it in such a way that it will not slip. Let the other end hang over the edge of the bed corresponding to the interval of the roll. Fold this end up in the form of a spout and place it in a bucket or chamber. Now, either have the patient raise her buttocks,—or; if too weak, raise her—and let her body down into this depression. You can now give the douche, and the escaping liquid will run down into the vessel without any danger of wetting the clothing of the patient, the bedding, or the carpet. With this digression, I will return to the case.

When I visited this patient, on the third day, she spoke of a feeling of fullness and tingling in her breasts. I was caught! I had not thought of such a contingency, and, really, I did not know what to do,—though, of course, I pretended that I had fully expected as much. I directed her to eat only dry food, and to abstain as much as possible from drink. When I returned the next day, they were painful and very tense. You could distinctly feel the outline of the milk-ducts, standing out like hard cords beneath the skin. In the meantime I had looked up treatment, and applied a double figure-of-eight bandage, covering in both breasts,—making as firm pressure as the patient could bear, and continued the abstainance from liquids.

No other treatment was employed. This bandage was renewed every day for ten days—then, every other day, till the end of three weeks, when there seemed to be no further indication for its use. The improvement began at once, and was uninterrupted. In two days after its first application, the pain had subsided. At the end of a week, there was no hardness. The secretion of milk was more obstinate, but yielded steadily as firmer pressure was made, till the time mentioned, when the glands had resumed their original size, and the secretion of milk was practically nothing.

It has been my fortune to have two subsequent cases where it was necessary to abolish the secretion of milk. In the first of these, a woman who went to full term, there was a tremendous flow, and, for a time trouble was anticipated. The pressure bandage was applied on the second day after delivery—before secretion had begun—but the contour of the breasts was such that it was almost impossible to apply a bandage that would keep its place for twenty-four hours. This treatment, alone, was kept up vigorously for two weeks. It was clear that the treatment was stopped too soon, but the difficulty was so far relieved that there was no subsequent trouble, though there was a little milk secreted for some time.

The third case was that of a woman delivered in the Maternity Pavilion of the University Hospital of an eight-months child, which died eight hours after birth. The management of this case being subject to the directions of the Professor of Obstetrics in this institution, the treatment, of course, exemplified his teaching on this point. There was no very marked flow of milk in this case. The pressure bandage was applied the second day and kept on two days only. On the fifth day the admin-

istration of potassium iodide was begun. This was given in 5-grain doses, three times a day, and was continued until the patient was discharged,—perhaps some ten days in all. This treatment seemed to give a very satisfactory result in this case—but it might not be wrong for me to venture the opinion, that it did in no way better than the cases treated by the pressure bandage and dry food diet.

It seems to me, from a study of the physiological and therapeutical action of belladonna, that it must have a proper place in the rational local treatment of this condition. To diminish secretion it has no rival, so far as I am aware, and that is the only indication to be met here. The use of the pressure bandage has a sound philosophical indication. When glands are secreting they are in a condition of local hyperæmia, necessarilly. Apply a tight bandage to a part, and you produce a mechanical local anæmia by constricting the vessels, consequently when an active gland is involved, its secretion must be enormously diminished.

SCARLATINAL RHEUMATISM.

BY PROFESSOR A. OLLIVIER, PARIS, FRANCE.

December 7th, was brought to my clinic, a little girl aged 8½ years affected with scarlet fever, which had broken out the evening before and was supposed to be complicated with diphtheritic angina. The next day we decided we had to do with a simple case of pultaceous angina attending scarlatina. The eruption, which was of a lively red color, had invaded the whole body; the fever was very intense and accompanied by delirium.

The fourth day after the eruption, the child complained of pains in the wrists and metacarpo-phalangeal articulations of the right side; the pain was, however, of little severity, and not aggravated by pressure. On the following day the left wrist and the fingers of the left hand were also affected.

Twenty-four hours later the pains had extended to the right elbow, and to the knees and feet. We now heard a light *bruit de souffle* at the apex of the heart with the first beat. The eruption, which was apparent the evening before, had completely disappeared after a duration of six days, yet, notwithstanding this, the temperature still remained in the neighborhood of 103 or 103½° F. The joints affected were slightly painful, but somewhat swollen; the fingers, separated the one from the other, were also swollen at their metacarpal extremities, and spindle shaped.

On the 13th, the left elbow was also invaded, but the scapulo-humeral joints were still exempt. As for the joints of the lower extremities, the knees, ankles, toes, and even the periarticular tendinous sheaths, were sensitive to pressure and a little swollen; the patient also complained of pains about the heels in the serous bursæ. The urine contained no albumen, the throat presented now only a diffuse redness, the *bruit de souffle* had become more marked and even rude. This is the description of the case.

Dec. 17th. The pains much diminished, and the temperature less elevated.

In the presence of such symptoms, the question forces itself upon us: What is the nature and origin of these pains? Have we to do with an ordinary rheumatism? May not a person suffering from a febrile affection contract a simple rheumatism when subjected to a chill? Do not such fluxions, with their diffusion to a great number of joints, bear a striking resemblance to acute articular rheumatism?

It is impossible to accept this view, for our patient has been exposed to no chill. Since the onset of her sickness, she has always remained in a room of equable temperature, has never had acute rheumatism, and is not predisposed thereto by heredity. It is more propable, then, that we have to do with a complication which came into existence under the influence of scarlatina, or rather from an exaggeration of certain phenomena determined by scarlatina.

This complication was noticed more than two hundred years ago by Daniel Sennert, who remarks that towards the decline of scarlet fever, the peccant matter may attack the joints of the extremities and cause them to inflame and be painful. Since then, scarlatinal rheumatism has been often studied, but no one has as yet been able to decide as to its degree of frequency. Chomel believes it rare. Trousseau considers it comparatively frequent, existing in a third of the cases. "If we do not observe it oftener," he says, "it is because the pain is little pronounced." For my part, I believe that it is impossible to be precise on this point, because the frequency of articular affections varies, probably, with epidemics, and with the gravity of the disease. If it be a very mild case, the joint affection is generally light or wanting; while in grave cases these rheumatic accidents show themselves oftener, and extend to certain joints always respected in the other forms.

It has been said that scarlatinal rheumatism is a post-eruptive complication. This is generally true. Recall to mind what took place in this patient—the articular manifestations showed themselves early, from the commencement of the fourth day after the eruption had begun to fade away; the joints first affected were the wrists, then the fingers; the pains then invaded the elbows, the knees, the ankles, and the toes.

As a general rule, this scarlatinal rheumatism attacks numerous joints, is of middling inten-

sity, and supervenes in the course of an intense scarlatina accompanied with delirium.

Another peculiarity of our case is: The appearance of inflammatory swelling in the tendinous sheaths of the lower extremities, as well as in the serous bursæ, retro- and infra-calcanear. This fact seems to be important, for it enables us to assimilate scarlatinal rheumatism to gonorrhœal rheumatism, which is often accompanied by pains in the heels.

If the symptoms of scarlatinal rheumatism are known, its nature is not well understood; authorities are far from being agreed on this point. Without stopping to consider the older theories, I will state one which has been ably supported by Jaccoud. According to his view, the arthrites of scarlatina, as well as the endocarditis, the pericarditis, the pleurisy, etc., which sometimes accompany this disease, are but the manifestations of the exanthem on the serous membranes in general. Measles is a disease with frequent localizations on the mucous membrane of the air passages or of the intestines; scarlet fever does not like the air passages, says Trousseau, but, on the other hand, it has an evident predilection for the serous membranes, — the pericardium, the pleura, the synovial membrane of the joints.

From this conception to the theory to-day admitted, there is but one step.

Since the modern bacteriological discoveries have shed so much light on the vexed questions of pathogeny, we know that in the liquid of arthritic inflammations supervening in the course of infectious diseases, microörganisms have been many times detected. This has been the case with arthrites consecutive to scarlet fever; only, it is still impossible to pronounce positively with regard to the pathogenic agent of this disease.

The most of the arthrites, formerly called secondary rheumatisms, are infectious. They are pseudo-rheumatisms, and you know that they are met in the course of divers diseases—blenorrhagia, small-pox, erysipelas, dysentery, etc. Ffteen years ago, I had occasion to treat an old lady for typhoid pneumonia; in the course of the disease there appeared a painful tumefaction of several fingers of one hand. This fact powerfully impressed me; I had not the explanation then which we have to-day, now that we know pneumonia to be an infectious disease.

How are these fluxions to serous membranes produced? It is likely that they are due to the irritation determined by the microörganisms which penetrate by means of the blood to these shut sacs, their number being in the ratio of the intensity of the disease.

In the case of this child we had a systolic *bruit* at the apex of the heart; this was first noticed two days after the appearance of the joint complications; this *bruit* afterwards became intensified. Was this *souffle* due to a cardiac lesion? I have been inclined to the belief that it was really symptomatic of a scarlatinous endocarditis. But this valvular affection, although subsequent to the joint affections, must not be regarded as subordinate to the latter; it must be ascribed to the same cause, namely, the general infection of the economy.

When you have before you a case of intense scarlatina, you should always be very reserved in your prognosis, for, without reckoning the other complications (encephalopathies, divers hæmorrhages, albuminous nephritis, etc.), there may supervene articular and cardiac accidents.

The prognosis of scarlatinal rheumatism is not bad; recovery generally takes place, but you must not forget that the joints may suppurate.

As for the treatment, it should be antiseptic; unfortunately we do not know the infectious agents, and we have not the means for its destruction. I do not hesitate, however, to prescribe quinine, the internal antiseptic whose properties are best established. Locally, we can have recourse to revulsives (iodine, vesicatories, etc.) The concomitant cardiac complications may be the starting point of an incurable organic affection, consequently we should hasten to employ the means which I have already had occasion to recommend to you—wet caps, vesicatories, punctiform cauterizations, and iodide of potassium.

THE TYPHOID BACILLUS—EXPERIMENTAL RESEARCHES AND CRITICISMS.*

BY ALI COHEN, Ch. H.

In the present work the author gives us his doctoral thesis, an excellent monograph upon the typhoid bacillus. To analyze it in detail surpasses the limits we are restricted to, and we shall, therefore, content ourselves by noticing a few important facts as pointed out.

The first chapter treats of the morphology and biology of the bacillus. Relating to the cultures on potatoes as characteristic of this micro-organism, Cohen remarks that the bacillus of typhoid can grow on the potato in four different manners.

1. The culture is invisible macroscopically, and extends all over the surface.

2. The culture is visible over all the surface.

3. The culture is visible macroscopically, and is limited to the centre of the section of the tubes.

4. The part visible macroscopically remains limited to the centre, but invisible ramifications extend to the periphery.

The author does not consider as absolutely

* Translated from the Annales de Micrographie, by Andrew W. Imrie, M. D.

characteristic the first mode of growth, and other organisms are capable also of presenting the appearance described in numbers two and three. In consequence, he raises some doubts as to the identity of the bacillus found in water, and considered by some as the typhoid bacillus.

As regards spores, Cohen has not been able to convince himself of the presence of true spores in the typhoid bacillus.

In the second chapter he treats of the value of the bacillus from a diagnostic point of view.

We notice here that he has found them constantly present in the spleen of persons who have died of abdominal typhoid, whilst they were regularly absent in cases of exanthematic typhus. This would decide the question of the identity or non-identity of these two diseases, which some clinicians consider as still pending, or else as determined in favor of their identity. The author has also made some researches on petechial typhus, and has found in the spleen of individuals who have succumbed to that malady a special bacillus, although he abstains from pronouncing definitely on its significance from an ætiological standpoint.

Cohen completes his work by the study of the pathogenic action of the typhoid bacillus on animals, and arrives at the conclusion that it does not proliferate in the body of those experimented upon. The animals which perish subsequent to the injection of cultures, succumb to a poison due to the ptomaines secreted by the microbes. However, the production of ptomaines in the cultures is not a constant phenomenon, in which case the injection of the cultures produces no effect. Notwithstanding this, Cohen is not disposed to admit that it is by the secretion of ptomaines that the typhoid bacillus exerts its pathogenic action on man.

CLINICAL LECTURE.

BY PROFESSOR MICHEL PETER, NECKER HOSPITAL, PARIS, FRANCE.

Perityphlitis—Alcoholism in the Tuberculous—A Case of Physiological Depravement—Jaundice Symptomatic of Cancer of the Stomach—Ought a Nursing Woman Afflicted with an Acute Disease to Cease Nursing her Child?

GENTLEMEN—Here is a woman suffering from an abdominal affection which I am led to regard, for reasons which I shall give you, as perityphlitis. For three weeks this patient has suffered from pains in the lower part of the belly on the right side, with irradiations into the groin on the same side, and has been obliged to give up her occupation as cook. She has had constipation and vomiting. The temperature yesterday was 103.7° F.; this morning it is 102° F. The lips are tremulous, as well as the tongue, which has a dirty white coat. This tremulousness is generally observed in alcoholic patients, and our patient has unfortunately been addicted to tippling. There has been absence of headache and delirium. Have we here a case of peritonitis? Yes, but it is a localized peritonitis, with its seat in the right iliac fossa. The patient, I have said, is constipated, and it is probable that the accumulation of fæcal matters in the cœcum provoked a typhlitis; then the inflammation was propagated from the mucous membrane of the intestine to the neighboring parts, gaining the adjacent cellular tissue; in other words, to the typhlitis succeeded, as is usual, a perityphlitis.

For treatment, I have prescribed this morning the application, over the seat of tumefaction, of six leeches; by warm fomentations, the blood will be encouraged to flow for an hour after the leeches are done drawing. To-morrow, if there be any need, I shall order a blister. This energetic treatment, which has been too much undervalued and abandoned of late years, will, I am certain, give great relief, though opiates may be still needed to procure rest for the inflamed bowel. If there be reason to suspect suppuration, surgical means will be resorted to in order to give exit to the pus. The bowels must be kept sufficiently open by mild laxatives, or by enemata. The disease (if the patient gets well) may terminate with troublesome adhesions.

***

Another patient who has lately come into our hospital is affected with tuberculosis, and is also intemperate. She, also, has been a cook, and was in the habit of drinking not only wine, but also strong coffee, to excess. Her tuberculosis dates back only six months, and at the same time she presents a grave cerebral condition. She is insolent and aggressive in her tone, and is incoherent and often delirious in her speech; she unreasonably reproaches the internés for doing nothing to help her. It is not tuberculosis that is the cause of this mental derangement; it is alcoholism.

The brain of an alcoholic patient is in a state of unstable equilibrium, and the least cause may throw it into disorder. Hence it is that only a slight degree of fever has been sufficient to throw this woman into quite a delirium. The primordial *quality* of the brain, in prey to fever, is a pathogenic element of considerable importance.

***

Here is still another woman addicted to alcoholic stimulants. She has from the first suffered from headaches. She is manifestly a prey to a continued fever, as the tongue is that of typhoid. She has been, as I have just said, a tippler; her lips twitch, the tongue trembles. From the sixth or seventh day, the

cerebral condition has become very threatening. Being allowed to stand up, she falls down in a kind of fit resembling hysteria. The fever is 104° F.

***

I desire to say a word here about a patient in one of our wards, who is to-day dying, and whose case well demonstrates the importance, in estimating the gravity of a disease, of taking account of the previous state of the patient. This was one of the most forlorn-looking individuals I have ever met with; miserable from a physiological as well as from a pecuniary point of view. He was attacked with pneumonia of the base of the right lung. This pneumonia is still only in the first stage (subcrepitant râles), and yet the man is going to die. It is, then, the previous state of debility of his organism, and not the morbid infection itself, that will cause his death.

***

I pass now to the history of a case which is very interesting from the point of view of diagnosis. The patient has jaundice, What is this jaundice due to?

He has never had bilious colic, hence we must exclude gall-stones from our diagnosis, and look for some organic affection. We note an augmentation in the volume of the liver, but there are not the nodules characteristic of cancer of this organ. We examine the epigastric region, the left hypochondrium, under the false ribs; we percuss, and find a circumscribed dullness in the left hypochondrium; an induration of four or five centimetres of area enables us to diagnose a cancer of the stomach. The jaundice is, then, the consequence of a secondary affection of the liver. What kind of affection? I have said that the liver was only tumefied, but not nodulated. Were the disease due to cancerous emboli in the hepatic blood-vessels, we should not necessarily have jaundice.

I think that there is secondary cancer of the lymphatic glands of the hilum of the liver, and that these hypertrophied glands, by their pressure on the common bile duct, stop the flow of bile into the duodenum, and thus cause jaundice.

What is remarkable, our patient, until recently, has not had vomiting. It will not do to entertain the belief that vomiting necessarily attends gastric cancer. This may exist for a long time without causing vomiting.

This patient, I have said, has a cancer of the stomach, seated in the greater curvature; but this is not all. Several days ago, while at stool, he had a violent pain in the left hypochondrium; this pain spread over the whole abdomen; peritonitis had set in. Vomiting then came on, due to the peritonitis and not to the cancer.

By percussion we note a peritoneal effusion in the lower part of the abdominal cavity. The patient has all the signs of peritonitis; pinched, emaciated face, filiform pulse, temperature 103° to 104° F., etc.

What has taken place? I take it that there has been a perforatory ulcer of the stomach, the result of the cancer; this has given issue into the peritoneal cavity of the contents of the stomach, and consequently has brought on peritonitis.

***

A female in one of our wards is sick with an acute disease; she is nursing her baby. Ought she continue so to do? I asked this question the other day in reference to the mother of seven children, who was taken with pleurisy, and whom we tapped twice.

A priori we might reply yes to the question for it is evident that the secretory hyperæmia of lactation must be a derivative from the inflammatory and febrile hyperæmia of the disease. But as the milk furnished under these conditions might be hurtful to the child, it is important to take into consideration the nature of the disease with which the mother is affected. If it be an infectious disease, like typhoid fever, I am opposed to the continuance of lactation, for although the milk may not contain the microbes of the disease, it cannot but be poorly elaborated, imperfect milk. But this will not prevent our continuing to keep up the lacteal secretion by artificial means, and the breast pump will be faithfully used.

But when we have to do with a disease that is not infectious, like pleurisy, there need be no hesitation about allowing the woman to nurse her babe. This we have done in the case of the woman with the twins. As the secretion of milk has diminished during the pleurisy, we have given the child other food along with the milk, so that it may not suffer for lack of nourishment. Moreover, we have continued to feed the patient, despite her pleurisy, and both woman and child are doing well. As the mother gets better of her pleurisy, the lacteal secretion will again become abundant.

An Analysis of the Extract of Beef.—Professor Walter S. Haines, the well-known Analyst, writes to Messrs. Armour & Co., the following note regarding his analysis of Beef Extract:

"I have recently bought in the open market, samples of your Extract of Beef, and of various other similar preparations, including the imported Liebig's. I have submitted them to careful examination, and I find your preparation the best—standing first in its physical properties (such as consistence, color and taste), and in its nutritive and stimulating value."

The Medical Age.

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B. W. PALMER, A. M., M. D., Editor.

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Editorial.

THE EVIL THAT HAS BEEN SAID OF DOCTORS IN PROVERBS.

We were interested a short time since in reading an interesting collection of *bon mots*, and some very far fetched ones too, which had appeared in French and English literature reflecting on the sincerity and skill of physicians, under the title of "The evil that has been said of doctors." The British Medical Journal supplements this book by an allied consideration of "Doctors and Proverbs" in the following strain:

In the proverbs, maxims, and popular phrases of all ages and countries, doctors have for the most part been severely dealt with. When Punch some years ago said, "A doctor is one who kills you to-day to prevent you from dying to-morrow," he merely echoed a sentiment which long use has invested with a sort of sanctity. Mr. Robert Christy has lately published two large volumes of the proverbs of all nations, and we have been interested in noticing how universal is the custom of satirizing the medical profession in these old saws. It is not often the patient gets so hardly dealt with as in the German proverb which declares that "A physician is an angel when employed, but a devil when one must pay him." True, somebody said that "A disobedient patient makes an unfeeling physician," but what are these weak defences of our order in comparison with the terrible thing with which the whole world of apophthegm pelts the unhappy doctor? The German aphorisms are particularly hard upon him. Here are some samples:—"Hussars pray for war and the doctors for fever," but in view of the new Notification of Diseases Act, they will probably cease to do that in this country. "A young physician should have three graveyards;" "A new doctor a new gravedigger;" "No physician is better than three," which is in opposition to the older maxim that "In a multitude of counsellors there is wisdom;" "New doctor new churchyard;" "Who has a physician has an executioner." All these sayings would seem to imply that however eminent the Germans may be in diagnosis, they are not uniformly successful in treatment. Spanish proverbs are grimly sarcastic at our expense: "The earth hides as it takes the physician's mistakes;" "If you have a friend who is a physician, send him to the house of your enemy." They have a rhyme, too, which goes somewhat in this style:

> And, doctor, do you really think
> That asses' milk I ought to drink?
> It cured yourself, I grant it true,
> But, then, 'twas mother's milk to you.

The French proverbs are not so polite towards us as they might be. For instance, "The doctor is often more to be feared than the disease;" and it was Voltaire who described a physician as "A man who pours drugs of which he knows little, into a body of which he knows less." The Italians are not any better. "No good doctor ever takes physic;" "Physicians alone are permitted to murder with impunity." But the Greek comedian beats the record for attributing downright malice. "No physician takes pleasure in the health even of his best friend."

There is a caustic humor about some Hebrew maxims which we should scarcely have expected. "Do not dwell in a city whose governor is a physician." "That city is in a bad way whose physician has the gout." Massinger said that "most physicians, as they grow greater in skill, grow less in religion;" but, however true that might have been in his time, it cannot be said now. We do not know who it was uttered the sarcasm, "You need not doubt; you are no doctor." Nor can we say who the rude person was who elaborated the couplet:

> With respect to the gout,
> The physician's but a lout.

Impertinent, certainly, but no fool was he.

Proverbs which deal with health apart from the doctors have more sense than some of those we have quoted. The Spaniard says, "He that sits with his back to a draught sits with his face to a coffin." "Of the malady a man fears he dies." Doubtless the treacherous nature of the climate of northern and central Spain is answerable for the following, "He that would be healthy must wear his winter clothes in summer."

The surgeon and his art do not appear in more than half a dozen of the "wise saws" of the world. "A good surgeon must have an eagle's eye, a lion's heart, and a lady's hand," is as respectful as it is true to the facts. Five of the six appear to be of English origin, the foreign one being Italian: "Tender surgeons make foul wounds."

Medicine is the subject of some good maxims, such as the German one, "Dear physic always does good," and the Spanish, "What cures Sancho makes Martha sick."

The Chinese have curious notions about

zymotic diseases. "Starve the measles and nourish the small pox," is scarcely intelligible on the germ theory, but it is quite as scientific as some of our own on the same lines. "One year a nurse and seven years the worse," is a little ambiguous. The Arabs say, "Among wonderful things is a sore-eyed person who is an oculist." "Diseases are the tax on our pleasures," is English in origin and application.

The physicians of the present day are to be congratulated that the more recent followers of literature do more justice to doctors and give him in books the place he really occupies in this 19th century; that of the modest, but well informed medical counsellor with much knowledge of human nature. With responsibilities which would overwhelm a less well equipped man, the modern doctor manages to minister to the ills of suffering humanity with more skill than his ancient prototype, and to play as important a part in his sphere, social and professional, as the devotee of any other profession. The day has gone by when the doctor can be ridiculed in literature which would find an appreciative audience.

HYDRASTININE—A NEW DERIVATIVE OF HYDRASTINE—A POSSIBLE SUBSTITUTE FOR ERGOT.

This substance, an oxydation product of hydrastine, white alkaloid of golden-seal, has recently been prepared by Parke, Davis & Co., in order to afford opportunities for its physiological investigation in European laboratories, prominent among which are those of the Universities of Dorpat and Berlin.

It can be obtained from hydrastine by the action of various oxydizing agents, and though the original methods were attended with considerable waste, improvements in this respect are constantly being made. So far. the most troublesome element is encountered in its purification and crystallization. The reaction taking place in its production may be illustrated thus:

$$\underset{C_{21}H_{21}NO_6}{\text{Hydrastine}} + O = \underset{C_{11}H_{11}NO_2}{\text{Hydrastinine}} + \underset{C_{10}H_{10}O_5}{\text{Opianic Acid}}$$

The alkaloid, or base, being sparingly soluble, and moreover rather prone to decomposition when in solution, preference is given to the hydrochlorate as possessing the desirable elements of stability and solubility in aqueous fluids.

Recent advices from the highest European authorities represent it to be of immeasurable service in controlling uterine hæmorrhages, far surpassing ergot in efficiency, certainty of action, and safety.

Some of the investigations made were published in the Therapeutische Monatschefte, Jan., 1890, page 19, and we learn are to be reproduced in the Therapeutic Gazette for February, in their entirety. Dr. Edmund Falk, of Berlin, associated with the Pharmacological Institute of the University of Germany, presents the conclusions derived from the investigations in the article quoted above, giving credit for the assistance rendered him by Professors Liebreich and Langgaard. From this paper we abstract the following facts:

1. Hydrastinine, in both warm and cold-blooded animals, paralyzes by means of its action on the motor sphere of the spinal marrow. A tetanic stage is not produced.

2. It increases the contractile power of the heart muscle. It is not a cardiac poison.

3. It has no local effect on the muscular tract.

4. It produced vascular contractions as a matter of precedence by its action on the vessels themselves, resulting in increased blood-pressure, which in the beginning is periodic and quite pronounced, persistent, and not interrupted by any symptoms of weakening.

5. Concurrently with the increase of blood pressure, we find an irritation of the vagi which produces a slowing of the pulse.

6. At death, the lessening of blood pressure is of a secondary nature, not dependent upon a relaxation of the blood vessels, and removable by means of artificial respiration.

7. Death ensues in fatal doses in consequence of paralysis of the respiratory centers.

Out of 26 patients treated with hydrastinine, there remain only four which were either not improved or cured; the results can therefors be summed up as giving 84.6 per cent. of the cures. On the one hand the hydrastinine has been used as a general remedy without selection of the cases, and on the other, because a large percentage had been previously treated with ergotin or by operative methods. Had I confined myself to a consideration of the treatment of hæmorrhages, entirely conditioned or dependence upon endometritis or myoma, or else menorrhagia of a purely congestive character, the percentage of recovery would have been notably higher.

A critical summary of the cases leads us to infer that curable instances are preferably those in which menorrhagia and metrorrhagia preponderate, also those of congestive dysmenorrhœa, and mild attacks of endometritis, (by which the causation of too decided and too frequent hæmorrhages are removed,) define the boundaries of this treatment. I have as yet not at my disposal any experiences concerning the usefulness hydrastinine can exert in producing a contractile effect on the vessels and by that means influencing the character and quantity of the hæmorrhage, but it is also probable that it is an excitant or stimulant to the muscular structure of the uterus. In evidence of this

position, we may adduce the fact that pains, resembling those of labor occur, and that slight hæmorrhages ensue after its injection, principally in cases of endometritis.

An important question which must be considered is: How shall hydrastinine be employed? I frequently began its use during hæmorrhage, and often found, in cases of endometritis, even after the first injection, a cessation of hæmorrhage; in cases of myoma, after several injections. The most satisfactory results were, however, obtained in cases of congestive dysmenorrhœa, or too profuse menstrual hæmorrhage dependent upon structural changes of the uterus, when the treatment was adopted from six to eight days before the expected menstrual flow. I injected daily one half syringeful of a 100 per cent. solution, representing gramme 0.05 hydrastinine muriate, and, as soon as the hæmorrhage commenced, a syringeful representing gramme 0.1 until its cessation. In cases of irregularity I injected every other day, or perhaps two or three times a week, gramme 0.05 of hydrastinine, using the following formula:

℞ Hydrastinine muriate, gramme 0.10
Aq. dest., grammes 10.0
q. s. for subcutaneous injection. Dose, ½ to 1 syringeful.

As an experimental feature, I made use, in the injections, of a quantity reaching up to gramme 0.15, but discovered that these large doses offer no advantage over those previously employed, representing from 0.05 to 0.1 gramme of the salt. It is noteworthy, however, that no bad results have been noted after the larger injection.

The firm of Parke, Davis & Co. furnishes a pure preparation.

I may here remark that, while the price of the hydrastinine is at present rather high, it should be remembered that the very moderate quantities needed (during each month not exceeding one gramme to each patient) are not such as to preclude its employment for economical reasons.

THE TENTH INTERNATIONAL MEDICAL CONGRESS.

For the information of our readers who desire to attend this Congress, or arrange for papers to be read at its approaching meeting, we reproduce below the Invitation, Regulations, and Programme, sent to the American Medical Profession by the President, Vice-President and Secretary-General, the executive officers of the Congress.

The American profession should fully appreciate the opportunities afforded by this Congress of comparing experiences with their German fellow-workers, so many of whom are renowned for their original researches in the various fields of medicine, notably in ætiology, pathology, and therapeutics.

We have no doubt also that the benefit of such association would be shared by the medical profession of all countries who participate in this Congress.

It cannot but broaden one's views to mentally rub up against such a collection of medical giants as are likely to be present at this Congress, and it is hoped American physicians will be well represented there. The trip will afford an opportunity for both mental and physical recuperation if properly managed, and the expenditure made will, no doubt, be compensated for by the increase of practice which will accrue from the knowledge obtained and, not least of all, from the prestige and reputation for progressiveness acquired.

INVITATION TO THE TENTH INTERNATIONAL MEDICAL CONGRESS.

In accordance with the decision of the Ninth Congress at Washington, the Tenth International Medical Congress will be held at Berlin, from the 4th to the 9th of August, 1890.

By the delegates of the German Medical Faculties and the chief Medical Societies of the German Empire, the undersigned have been appointed members of the General Committee of Organization. A Special Committee of Organization has also been appointed for each of the different sections, to arrange the scientific problems to be discussed at the meetings of the respective sections. An International Medical and Scientific Exhibition will also be held by the Congress.

We have the honor to inform you of the above decisions, and at the same time cordially to invite attendance at the Congress. We should esteem it a favor if you would kindly extend this invitation to your friends in medical circles, as way may offer.

We beg to accompany our invitation by a copy of the statutes and programme, as also by the list of the intended sections and their Special Committees of Organization.

Dr. RUDOLF VIRCHOW,
President.
Dr. VON BERGMANN,
Dr. LEYDEN,
Dr. WALDEYER,
Vice-Presidents.
Dr. LASSAR,
Secretary-General.

All communications must be directed to the General Secretary, Berlin, NW., Karlstrasse 19.

TENTH INTERNATIONAL MEDICAL CONGRESS, BERLIN, 1890—REGULATIONS AND PROGRAMME.

1. The Tenth International Medical Congress will be opened in Berlin on Monday, August 4th, 1890, and will be closed Saturday, August 9th.

2. The Congress shall consist of legally

qualified medical men who have inscribed themselves as Members, and have paid for their Card of Membership. Other men of science who interest themselves in the work of the Congress, may be admitted as Extraordinary Members.

Those who take part in the Congress shall pay a subscription of 20 Marks (one Pound stg. or $5) on being enrolled as Members. For this sum they shall receive a copy of the Transactions, as soon as they appear. The enrollment shall take place at the beginning of the Congress. Gentlemen may, however, be enrolled as members by sending the amount of the subscription to the Treasurer* with their name, professional status, and residence appended.

3. The object of the Congress is an exclusively scientific one.

4. The work of the Congress will be discharged by eighteen different sections. The members shall declare upon enrollment to which section or sections they intend more particularly to attach themselves.

5. The Committee of Organization shall, at the opening sitting of the Congress, suggest the election of a definite Committee (or Bureau) which shall consist of a President, three Vice-Presidents; and a number—as yet undetermined—of Honorary Vice-Presidents and Secretaries.

At the first meeting of each section a President and certain number of Hon. Presidents shall be elected; these latter shall conduct the business of the sections in turn with the Presidents.

On account of the different languages employed, a suitable number of Secretaries shall be chosen from among the foreign members. The duties of the foreign Secretaries shall be confined to the sittings of the Congress.

After the termination of the Congress, the editing of the Transactions shall be carried out by a Committee, specially appointed for this purpose.

6. The Congress will assemble daily, either for a general meeting, or for the labors of the different sections.

The general meetings will be held between 11 and 2 o'clock. Three such meetings will take place.

The time for the sittings of the various sections will be fixed by the special committee of each section, it being understood, however, that no such sittings are to take place during the hours allotted to the general meetings.

Joint sittings of two or more sections may be held, provided that the Bureau of the Congress can afford suitable rooms for such sittings.

7. The general meetings shall be devoted to:

a. Transactions connected with the work and general management of the Congress.

b. Speeches and communications of general interest.

8. Addresses in the general sittings, as well as in any extraordinary meetings which may be determined upon, can only be given by those who have been specially requested by the Committee of Organization.

Proposals relative to the future management of the Congress must be announced to the Committee of Organization before July 1st, 1890. The Committee shall decide whether these proposals are suitable to be introduced for discussion.

9. In the sittings of the sections, questions and problems will be discussed, which have been agreed upon by the special Committees of Organization. The communications of those appointed by the Committee to report on a subject, shall form the basis of discussion. As far as time allows, other communications or proposals, proceeding from members and sanctioned by the Committee of Organization, may also be introduced for discussion. The Bureau of each section decides as to the acceptance of such offered communications, and as to the order in which they shall come before the meeting, always provided that this point has not been already determined in the sitting itself by a decree of the section.

Scientific questions shall not be put to vote.

10. Introductory addresses in the sections must, as a rule, not exceed twenty minutes in length. In the discussions no more than ten minutes are allowed to each speaker.

11. All addresses and papers in the general and sectional meetings must be handed over to the Secretaries, in writing, before the end of the sitting. The Editorial Committee shall decide whether—and to what extent—these written contributions shall be included in the printed Transactions of the Congress. The Members who have taken part in the discussions, will be requested to hand over to the Secretaries before the end of the day, in writing, the substance of their remarks.

12. The official languages of all the sittings shall be German, English and French. The Regulations, the Programme, and the Agenda for the day, will be printed in all three languages.

It will, however, be allowable to make use of other languages than the above for brief remarks, always provided that one of the members present is ready to translate the gist of such remarks into one of the official languages.

13. The acting President shall conduct the business of each meeting according to the parliamentary rules generally accepted in deliberative assemblies.

14. Medical students, and other persons, ladies and gentlemen, who are not physicians but take a special interest in the work of a particular sitting, may be invited by the

* Treasurer's address: Dr. M. Bartels, Berlin SW., Leipziger-strasse 75.—Please to enclose a visiting-card.

President, or be allowed to attend the sitting, by special permission.

15. Communications or inquiries regarding the business of separate sections, must be addressed to the managing members thereof. All other communications and inquiries must be directed to the General Secretary, Dr. Lassar, Berlin NW., 19 Karlstrasse.

THE LATEST PHASE OF PASTEURISM.

The Jour. de Med. de Paris formulates a serious charge against M. Pasteur, which is no less than making capital for himself by falsifying the returns of his Institute. The report for the year ending November, 1889, admits eleven deaths out of all who submitted themselves to the preventive treatment for hydrophobia. "If we add to this figure," says the Journal, "the number of deaths which have occurred from hydrophobia amongst persons who have not been treated, we obtain easily the annual average such as it existed before the 'wonderful discovery.' M. Pasteur is, however, illy informed when he asserts only eleven persons have died after his treatment. *The actual number is twenty-six!* And we are prepared to furnish M. Pasteur and his friends with the Christian and surnames of the deceased, and every detail necessary to establish the scientific accuracy of so important a question. We should have preferred to find in M. Pasteur's report, instead of pompous praises of his method, some explanation of the number of deaths from paralytic hydrophobia which are being multiplied in a very disquieting manner."

Dr. Rascol, of Murat, writes: "My eyes have been opened to the despotism exercised by M. Pasteur to enforce his teachings on those around him. At the commencement of the present year, a fatal case of hydrophobia in a rural postman made a deep impression on the public mind. He was cared for by myself and my confrères, and after carefully weighing the circumstances we were convinced that the ætiology of the disease lay in the inoculations to which he had submitted at the Pasteur Institute. This was the view shared by the whole population, and the more so because another man, who had been more severely bitten than the postman, on the same day and by the same dog, was quite well though he had not been inoculated. I communicated these facts without comment to M. Pasteur and M. Peter. In a letter accompanying the communication, I wrote that the interests of science and humanity were too intimately associated with the disagreements which existed between them as regards the new method, for anyone to feel justified in withholding facts which might throw light upon it. M. Pasteur vouchsafed no reply; but M. Peter wrote me a letter in which he establishes the fact that the case was one of hydrophobia, and that in all probability it was inoculated at the Pasteur Institute."

The same gentleman, M. Rascol, who resides in a section of France where the population is devoted almost exclusively to sheep-farming, remarks regarding the Pasteur inoculation for charbon, that the mortality therefrom "is fearful," and to such a degree that "none of our agriculturists at the present time will suffer their animals to be vaccinated."

A REMEDY FOR THE BRONCHITIS OF LA GRIPPE.

One of the most constant and annoying accompaniments of *la grippe* is bronchitis, which, indeed, does not cease with the subsidence of the other symptoms, and in many cases persists for weeks after the patient has recovered from all other features of the affection.

The universal prevalence of *la grippe* has stimulated physicians and manufacturers of medicinal preparations to suggest various remedies as specifics, and no doubt each one recommended may have some favorable effect upon some particular symptom of this disease with its protean manifestations.

For the bronchitis, remedies acting as respiratory sedatives are indicated in the first stages, and stimulating expectorants in the later conditions manifested. Inasmuch as the divisions between various periods of bronchial inflammation are not always very distinct, it is customary to combine sedatives and anodynes with expectorants, and with good effect. Among the formulæ used, the writer has found the following of very great service in the bronchitis of *la grippe*. Each fluid ounce contains: White pine bark, 30 grains; wild cherry bark, 30 grains; balsam poplar buds, 4 grains (balm of Gilead); spikenard root, 4 grains; blood root, 3½ grains; sassafras bark, 2 grains; morphine acetate, 3-16 grain; chloroform, 4 minims. This formula, under the name of syrup white pine compound, is now put up in convenient, palatable form by Messrs. Parke, Davis & Co.

The value of the aromatic and resinous ingredients of balm of Gilead (balsam poplar) buds and sassafras, have long been recognized. In the former we find benzoic acid and its derivatives. This acid long ago found a permanent and useful place in medicine, as is witnessed by its employment in paregoric and various other remedies, either in a pure form, or by reason of its being a component of some of the ingredients used.

In these remedies, internal as well as external, its use has unsuspectingly both antedated and anticipated antisepticism.

The irritant and expectorant properties of blood-root are very happily conjoined with those of the astringents which have the power

of contracting the mucous exudations, and thus assist in loosening them from the membranes to which they are attached.

The sedative properties of chloroform, morphine, and cherry, here find useful application.

THE STATUS OF AMERICAN MEDICAL SCHOOLS.

The *Pharmaceutische Post*, of last November, speaking of the medical schools of America, remarks: "How slight are the demands made upon students in the way of preliminary education, is shown by the new law recently passed in the State of New York. This law commands that in the future only those shall be permitted to enter who have studied grammar, orthography, arithmetic, geography, and the rudiments of the natural sciences. Henceforth, remarks the Boston Medical Journal, the New York physicians will be masters of reading and writing."

Taken as it reads, the above is rather a sweeping assertion, though as a criticism it is in the main true. It, however, leads the uninformed to imagine that before the said law was passed in New York State, anyone, regardless of a knowledge of grammar, orthography, arithmetic, etc., could enter any medical school: in fact, that no medical college demanded any form of education as a requirement for matriculation.

This is an error, as several of the metropolitan schools have been very exacting in this matter, though the standard was not high, and very far from being what it ought.

The facts are, that all first-class medical institutions like the College of Physicians and Surgeons of New York, and the University of Pennsylvania, rigidly enforce rules that require the matriculant to be possessed of something more than an ordinary common school education. Harvard goes even further, requiring either a degree in art or science, or the passing of an examination equal to that required of the literary sophmore ere he passes into his junior year.

Also, there are many institutions of lesser note that professedly require an edcuational qualification as the stepping-stone to medical study, though it must be admitted that with many this is largely "on paper." One we know of, that has been accustomed to boast of the high standard of its requirements in print, in reality limits its examination to personal questions regarding birth, age, and residence, geography of the State in which the applicant is resident—questions, all, such as he could not fail to know,—and queries that can be definitely answered by "Yes" or "No."

Of course such a condition of things is deplorable, as is the fact that medical schools of all grades and classes are permitted to multiply, not to any end demanded by medical education, but solely for the advertisement and glorification of a few interested individuals.

In Canada and Mexico, which must of course be included as America, the qualifications demanded as preliminary to the study of medicine, are much higher than obtain in the United States. In the former the same examination is exacted in all institutions as for matriculation in literary schools; for which reasons the inferior schools in the U. S. exhibit more or less Canadian students whose ignorance debar them from medical study at home. In Mexico, a literary degree is an imperative requisite.

That there is need of a uniform examination in the United States, both for entrance into medical schools, and for authority to practice medicine, is manifest. Could a general Federal law be enacted and faithfully executed, requiring uniform examinations both for entrance upon, and completion of, medical study, much that is now objectionable would be done away with. The fact that the average of medical men in the United States would not be permitted to practice in any other civilized portion of the world, is a National disgrace. Even the Central and South American republics, and "greaser" Mexico, is superior to us in this and other educational requirements. The law in Canada speedily drove the charlatans to the United States, and at the same time proved the death blow of inferior medical schools and to imperfect medical education.

As the matter stands, however, the United States is inferior to no country in the world in medical education, *providing always* that the medical aspirant desires a thorough understanding of medical matters. Unfortunately, the majority do not care for standard, but only for a degree, since they enter the profession not from any high motive or lofty aspirations, but solely as a means of acquiring a competency; and this is the class that foster and support the vast number of degraded medical schools that have made our medical civilization largely a by-word and reproach. The day will come doubtless—must come—when there will be uniformity in medical education and examination throughout the United States, permitting American practitioners as a class, instead of only as individuals, to take proper rank in the professional world.

Dr. Chas. Edouard Brown-Sequard, Jr., son of the famous physiologist, is a practitioner of dentistry in New Orleans. He graduated from Bellevue Hospital Medical College, but left medicine to enter upon his present calling, which, in Louisiana at least, is supposed to offer greater pecuniary rewards.

Book Notices.

ARTIFICIAL ANÆSTHESIA. By Lawrence Turnbull, M. D., Ph. G.; 3d edition revised and enlarged. Cloth; large 12mo.; 530 pp. Price, $3.00. Published by P. Blackiston, Son & Co., Philadelphia.

In 1847, Oliver Wendell Holmes created the words "artificial anæsthesia," and wrote: "Nature herself is working out the primal curse which doomed the tenderest of her creatures to the sharpest of her trials: but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knitted brow of agony has been smoothed for ever."

The first edition of this work was originally written as a report for a medical society, subsequently extended to its present form to supply a need that has ever existed, since the discovery of anæsthesia, for a convenient handbook that should deal with the modes of administration of the various anæsthetic preparations. The objects of the work, first and last, as explained by the author, are:

"*First.* To give in as concise manner as possible a description of the most available agents that may be successfully and safely employed as anæsthetics.

"*Second.* To present the chief chemical tests of the purity of each substance considered, with its composition, physical characters, and medical properties.

"*Third.* To exhibit the best methods of administering the various anæsthetics, to give careful directions, and to state the precautions to be taken to avoid risk to the life of the patient.

"*Fourth.* To note the personal experience of the author, his assistants and friends, with anæsthetics and the various forms of inhalers in use, with a selection of the most approved, not withholding, however, the objections, but noting the experiments of other reliable investigators.

"*Fifth.* To compare the relative mortality from all anæsthetics now employed, endeavoring to assist the reader in forming a fair and candid opinion of this most important subject, which is now, and has for so long a period, occupied the attention of the public as well as the medical profession."

It must be admitted that the author has succeeded well in his undertaking, and gathered in one volume a mass of facts hitherto so scattered as to be almost unattainable for practical use. The subjects of anæsthesia and anæsthetic agents are so presented by careful study of natural and physiological relations, that each medical man can with little trouble select the especial anæsthetic which will be most suitable for the individual case in hand.

Not the least of the value of the volume is the extensive space devoted to local anæsthetics. The chapters devoted to cocaine are especially complete, embodying all forms of local and subcutaneous administration, its employment in surgery and ophthalmology, laryngology, etc.; also the cocaine habit receives due attention.

We observe among other local anæsthetics treated of, oil of eucalyptus, rhigolene, methyl and its chloride, hydrastine, homotropine, chloro-hydrate of ephedrine, brucine, apomorphine, erythrophleine, canadol, iodoform: and a number of lesser value are given due mention.

The volume is one which no medical man can afford to ignore or be without. We would advise all practitioners to secure a copy, and memorize the salient points, so that, when a case of emergency arises, it will not be necessary to act blindfolded (as it were) or to seek information from the book itself. Thus all unnecessary haste, worry, and confusion would be avoided, knowing just what to do for the best interest of the patient, suffering perhaps "nigh unto death."

We should have added that an entire chapter,—the last,—is devoted to the medico-legal relations of anæsthesia.

A HAND-BOOK OF DISEASES OF WOMEN. By Dr. F. Winckel; edited by Theophilus Parvin, M. D. Cloth, 12mo. 766 pp. Price $3.00. Published by P. Blackiston, Son & Co. Philadelphia.

This is a translation of the well-known "Lehrbuch der Frauenkrankheiten," of Prof. Winckel, who is prominently and favorably recognized in medical circles as one of the foremost gynæcologists of the day; he is also Director of the Royal University Clinic for Women, in Munich.

In the revision Dr. Parvin has been aided by Drs. J. H. Williamson, A. B. Hirsh, and A. A. Eshmer, ample evidence that the volume has lost nothing by being rendered into English. There are few volumes in any language so complete in the ætiology and pathology of the subjects treated, hence the work is desirable not alone to the specialist, but to the general practitioner.

THE NATIONAL MEDICAL DICTIONARY. By John S. Billings, A. M., M. D., LL. D., D. C. L., U. S Army. Sheep, 2 vols.; large 8 vo.; pp. 1430. Published by Lea Brothers & Co., Philadelphia.

The object of this work is to furnish students and practitioners of medicine a clear concise definition of every medical term in current use in English, French, German, and Italian medical literature, including the Latin medical terminology of all these languages.

The total number of words and phrases defined is 84,844 of which 25,496 are Latin, 9,158 French, 16,708 German, and 6,514 Italian; this

does not include French, German, and Italian synonyms given in connection with English or Latin primes.

Prefixed to the first volume are a series of tables convenient for reference, much of the information embodied therein being nowhere else attainable, save by extensive research of general medical literature.

As a whole the work appears to have been well and conscientiously done, though we miss many of the older familiar words which are in a measure obsolete. For reference as regards modern literature, these volumes can hardly be surpassed; but for the literature of the early part of the present century, and for that of past centuries, the practitioner will still have to rely on Gardner and Dungleson.

A Treatise on Fractures. By Armand Despris, translated and edited by Dr. E. P. Hurd. Cloth, 12 mo., pp. 90, price, 50 cents; paper, 25 cents. Published by Geo. S. Davis, Detroit.

This, No. 3 of the fourth series of the Leisure Library, is one of the most valuable of the many monographs that have been issued by Mr. Davis. As an epitome of the treatment of fractures, it is unexcelled, and possesses also all the merits of brevity, while sacrificing nothing of absolute value. It is the only volume that gives a proper understanding of the use and application of Nathan Smith's anterior splint for fractures of the leg and thigh, an apparatus immeasurably superior to the double inclined plane, and the long splint of Liston, which are so generally employed.

Medical and Surgical Monographs. Vol. 4, No. 3. Paper 8vo. Pp. 272. Price $1.00. Published by Wm. Wood & Co., New York.

The final number of the year 1889, embodies the following essays: "A Practical Treatise on Baldness" by Geo. T. Jackson, M. D.; "The Sphere, Rights, and Obligations of Medical Experts," by Jas. J. Otis, M. D.; "Pathology and Treatment of Ringworm," by George Thin, M. D.; "Notes on Dental Surgery," by J. Smith, M. D., L. L. D.; "On Sounding for Gall Stones by Digital Manipulation," by Dr. Geo. Harley, F. R. S.

The Intestinal Diseases of Children. By Prof. A. Jacobi, M. D. Cloth, 12 mo., pp. 325. Price, 50 cents. Published by Geo. S. Davis, Detroit.

This deservedly popular work is now in its second edition, having been carefully revised by its author. It is the most complete, and at the same time the most concise and practical monograph on this subject ever published. Dr. Jacobi's reputation extends to two hemispheres, and no one in either the New or Old World is so competent to speak authoritatively regarding the maladies of infancy.

Notes and News.

The Leprosy Bacillus.—Dr. J. H Stallard, of San Francisco, writes the British Medical Journal as follows: I see from the Journal that the subject of leprosy is creating considerable interest. I have recently made some interesting experiments on the persistence and growth of the bacillus. In October, 1886, I removed some tumors from a leprous patient. Sections show the usual lepra cells and bacilli. Portions of this tumor were placed in various fluids. The test tubes were loosely closed to keep out dust. No precautions were taken to sterilize the fluids or tubes. The tubes were kept in my consulting room. They all underwent a process of decomposition. The usual bacteria of decomposition were abundantly present, and in some there was a growth of aspergillus. The contents of these tubes have been examined many hundreds of times. In most of them the morsels of tumor have rotted down to a little indestructible connective tissue, and until now the bacilli of leprosy may be demonstrated by the fuchsin stains. These are formed in every stage of growth. The lepra cells at first break up into colonies of cocci; these then grow in length, and in the end quite long threads of bacilli lepræ may be seen. I have numerous slides where the culture is absolutely pure. These occurred in cold water, and are found as a light cloud in close proximity to the morsel of flesh.

Recently Dr. Prince Morrow, of New York, passed through on his way from Honolulu. He was so much interested as to request a series of slides, which he proposed to exhibit at the Paris Convention. He has already shown them in New York, and I also did so at the meeting of the State Medical Society here. In 1883 I visited the Islands, and I believe sent you copies of letters which I wrote to the Hawaiian Government. But I am satisfied:

1. That leprosy is feebly contagious.
2. Probably less so than phthisis.
3. That the spread in the Sandwich Islands affords absolute proof of contagion.
4. That its increase was due to new conditions of native life, brought about by the association with the population.

I believe it doubtful if Keanu is a leper. The tubercle developed at the point of inoculation, in which bacilli were found at the end of a year, has disappeared without the manifestation of any new symptoms of leprosy. Dr. P. Morrow is my authority for this statement. I suggest an an inquiry into the hygienic conditions of populations in Europe still subject to leprosy. I believe it can be arrested, and surely prevented, by abundant food and a perfect state of health. I have pretty good proof of both these statements.

Substitution by Druggists.—It is a fact familiar to all of us that the most ordinary prescription which we may compose, when filled at different pharmacies, or even at the same pharmacy at different times, may appear so different as to call forth the complaints of our patient, who never believes the repeated bottle is quite as good as the first one; indeed, he frequently thinks it is a different preparation, and is firmly convinced that the druggist has made a mistake and given him the wrong medicine.

We all know how essential it is to have certain prescriptions prepared in a certain way, even aside from the manner in which the general rules of pharmacy would govern their preparation.

We believe, therefore, that the substitution or proffer by the druggist of a home-made preparation of this kind, for the one which is prescribed, should be deprecated by the profession as emphatically as is its cousin, the substitution of one drug for another.—*Weekly Medical Review*, St. Louis, Mo. Dec. 14th, 1889.

An Æsthetic Delicacy.—The Coreans have a custom, which, to say the least, is repulsive to the uninitiated. They consider a puppy's caul to be the highest of delicacies, and Corean epicures often pay high prices for this article whenever they wish to do special honor to a distinguished guest. No sooner does a bitch litter, than the eager hand of the Corean seizes with avidity on the cauls, and having possessed himself of them, (if in poor circumstances) rushes to the King's palace to sell his treasures to the highest bidder. If the lucky man happen to be in easy circumstances, he issues special cards inviting his most intimate friends to join him in discussing this curious delicacy.

Therapeutic Brevities.

Influenza.—In the St. Petersburg hospitals, cold compresses and purgatives were ordered at the beginning of the disease; then the following prescriptions:

I.

℞ Infus. ipecac. rad., grammes 0.20 to 120.00
Natrii salicyl., grammes 2.00,
Acid. muriat. dil, grammes 0.80,
Syr. rubi idæi, grammes 30 0.

Dose: 1 tablespoonful every three hours.

II.

℞ Codeini puri, grammes 0.05-
Analgesin, grammes 3 00,
Sodium bicarbonate, grammes, 1.00.

Mix and divide into 10 doses; 2 powders, 3 times daily.

III.

℞ Linim. sapon., grammes 80.0,
Mist. oleor. bals., grammes 30.0,
Chloroformii, grammes 8.00,
Extract opii, grammes 2.00,
Spts lavand., grammes 15.00.

M: S.: To be rubbed into the body twice daily.

Puncture in Intestinal Obstruction.—The value of capillary puncture of the intestine in cases of extreme flatulent distension, whether due to organic stricture or to a removal cause, is becoming generally recognized. Our knowledge of the method is chiefly derived from the researches of Dr. John W. Ogle, who not long ago published a valuable little monograph on the subject. He established it as a legitimate procedure, not attended by any excessive amount of danger, capable of giving excellent results when adopted in time, and of yielding the patient much relief as a last resource. At the meeting of the Surgical Congress in Paris, in October, M. Demons, of Bordeaux, reported six cases in which he had made use of this procedure with encouraging results. He used a Dieulafoy's aspirator, so that, if necessary, fluid fæces could be aspirated. His cases were examples of intestinal obstruction, believed to be due to peritoneal bands or inflammation of the sub-peritoneal tissue. The danger of extravasation of fæces into the peritoneum appears to be small if a fine needle is used, but a case of Sir William Jenner's shows that the operation has certain special dangers. In that case, which was an instance of malignant stricture, each point of puncture was found to have become the seat of a secondary cancerous deposit.

The Treatment of Obesity.—Ebstein's formula, as is well known, consists in very much restricting the food eaten, giving a large proportion of fat, and curtailing those articles of diet that contain sugar and starch, his theory being that fat assists in the body by its transformation into heat in eliminating other materials. Acting on these lines in my dietary, I totally forbid sugar (substituting saccharin), malt liquors, and greatly limit the amount of starch; in fact, my daily diet may be roughly represented thus: 12 ounces of meat, 3 ounces of butter or fat, 4 ounces of bread (as dry toast, bread-crumbs, or for other culinary purposes), 2 or 3 ounces of milk or a little cream. Tea, coffee, claret for drink, and eight or ten miles walking exercise daily. To enable sufferers to have a choice of food, I have culled about three hundred receipts, embracing soups, fish, meats, jellies, fruits, etc., always endeavoring to give at each meal a certain amount that shall represent in the twenty-four hours as nearly as possible 8 ounces of nitrogenous food (dry), 3 ounces of fat or butter (hence the cream that Mr. Towers-Smith objects to), 3 or 4 ounces of carbo-hydrates, and 1 ounce of salt.—Dr. N. E. Davies, in *Brit. Med. Jour.*

Night Sweats, Particularly in Phthisis.—Many drugs have been used and recommended for the relief of this distressing symptom. Superior to any I have ever used, and on ac-

count of the small bulk exceedingly easy of administration, is picrotoxin. I prescribe the gelatine-coated pills found in the shops. Each pill contains the sixtieth of a grain, a dose I have never exceeded. Usually, I administer one quite early in the evening, and repeat towards morning if necessary. I have been using this drug for five years in this connection, and have noted failure in but one case; this yielded only to strong doses of atropia, the effects of which the patient disliked so much as to prefer the sweats. I have never witnessed any effect from the use of picrotoxin, save that of an anti-hydrotic. It has acted better with me than agaracin, and I have more confidence in it. It has worked well many times, after the acids and the zinc oxide had failed. I use it also when the sweats that frequently attend the termination of the continued fevers are exhausting the patient. Here, too, it works nicely.—Dr. T. M. Ward, in *Pittsburgh Medical Review.*

Eucalyptus in Cancer.—I lately had a case of cancer of the breast in which the ulcerating surface was about 8 inches by 6. The odor from the discharge was most sickening and offensive, and it was made worse by the odor of the carbolic acid which they were using. No one could remain in the room long with the patient on account of the intolerable smell. The carbolic acid was stopped, and the eucalyptus disinfectant used. The wound was sprayed with it, as also the lint with which it was dressed; tenax was wetted with it and placed under the wound to catch the discharge, and, by the use of a spray diffuser, the air of the room was filled with the fragrant odor of the eucalyptus. All offensive smell at once ceased, and there was only the smell of an ordinary suppurating surface.

In a case of cancer of the sigmoid flexure where the discharge was frequent and very offensive, the injection of a small quantity of eucalyptus emulsion twice a day, stopped the offensive odor, and checked the frequency of the discharges. And in a case of cancer of the neck of the uterus, the offensive smell was stopped, the discharge lessened in quantity, and the tendency to hæmorrhage diminished. —J. Brendon Curgenven, in *British Medical Journal*, Dec. 7th, 1889.

Massage of the Heart.—A peculiar manipulation, to which he has applied the term "massage of the heart," has been recommended by Oertel in cases of cardiac insufficiency, whether due to weakness of the heart muscle, to obstruction due to valvular disease, emphysema, or peripheral pressure where compensatory hypertrophy is not complete. The manipulation is thus performed: The masseur places his hands on either side of the chest of the patient, at the level of the fifth or sixth rib in the axillary line, and moves them forward and downward during expiration till the lower border of the seventh or eighth rib is reached, at the same time exerting pressure. This occupies the whole period of expiration, and is repeated with each inspiration. The following inspiration is deeper, and to this much of the good effect claimed for the method must be attributed, since it must increase the negative thoracic pressure; but Oertel believes that some direct pressure is also exerted on the heart during the manipulation, and that the cardiac circulation is thus facilitated. The method should not be employed in recent cases of endo-, myo-, or pericarditis, nor where there is much arterial atheroma.

Hypnotics.—Much interest has been taken in hypnotics, and an admirable summary of our knowledge of the chemistry and physiological action of the newer hypnotics will be found in the address which Professor Leech delivered at the annual meeting of the British Medical Association. Sulphonal continues to hold a high place as a safe hypnotic; the worst results that may follow its use seem to be that sometimes giddiness, headache, and weakness of the legs are produced. Some admirable cases showing its value have been published by Drs. Percy Smith, Sutherland, and Bond. Chloralamid, too, appears to be a valuable hypnotic, having very few if any bad after-effects. It has the advantage over sulphonal that it is more easily soluble, and it is much cheaper. In a recent number of the Journal, Hale White has recorded twenty cases to whom it was administered. Thirty grains is the usual dose, and it dissolves with spirit, and therefore a good way to give is to take it in a little brandy and water about half an hour before going to bed. It is feebly soluble in water. Many Continental observers record successful cases of its employment.—*British Med. Jour.*

Surgical Treatment of General Paralysis and of Epilepsy.—Quite recently Dr. Claye Shaw has recorded in the *British Medical Journal* a case in which large portions of the bones of the skull were removed in a patient suffering from general paralysis of the insane; the dura mater was cut, and much subarachnoid fluid was let out. It is stated that the patient was much improved after the operation; but before passing any opinion upon its value, we must have many more cases before us. Dr. Alexander has suggested removing the superior cervical ganglion for epilepsy. It is difficult to know what sound reason there can be for this; for, as far as we know, the superior cervical ganglion has no function that can be concerned in the production of epilepsy. Still, as it has been advised, probably many will be induced to try it. The statistics given are encouraging—so encouraging, in fact, that one is tempted to suspect a fallacy somewhere.

Sterilized Lint.—M. Regnier renders lint sterile by heating it to a temperature of 120° C. (248° F.) He had tested the antiseptic value of lint thus prepared in dressings applied after operations of various kinds, with good results. At a recent surgical congress he stated that he considered sterilized lint equal to antiseptic dressings.

Compression of the Carotid.—Messrs. Spencer and Horsly have suggested that compression of the carotid artery might be tried in the human subject to control cerebral hæmorrhage, but at present this method of treatment has not found many advocates.

Medical Progress.

MALARIA.—In the Epidemiological Society (London), session of Nov. 11th, 1889, Sir William Moore remarked it had been stated that malaria caused more human misery than any other form of disease. Many theories had been originated as to the nature of malaria, but hitherto he considered we were ignorant of what malaria really was. He did not believe that the bacillus malariæ of Crudeli and Klebs was the true malaria germ, any more than he admitted that the spores of algoid plants of the palmetta species, stigmatized as such years ago by Salisbury, was the true malaria germ. He mentioned what had been advanced by Klebs, Crudeli, Marchiafava, Laveran, and others, on the subject of the bacillus malariæ. But there were fatal objections. The bacillus had not been found everywhere where paroxysmal fevers prevailed. Neither was it reasonable to suppose that every kind of surface on which paroxysmal fever occurred would produce the same kind of bacillus. It was said to require heat and moist earth. But malarious fevers prevailed in sandy deserts, where water was hundreds of feet from the surface; and on bare rocks, where there was no earth, although plenty of moisture in the form of dew at some seasons of the year. Moreover, credible authorities had stated that malarious fever might occur in half an hour after exposure; and was it to be supposed that in that short time the bacillus malariæ entered the spleen and marrow of the bones (where they were supposed to reside until coming into action), increased and multiplied, and then sallied forth to excite fever? Moreover, he would ask what became of the bacilli when a person recovered? Evidently they did not pass into the atmosphere, or malarious fever would be infectious. Then it was also well known that a person might have an attack of ague months, or even years, after the primary seizure. Was it to be supposed that the bacilli remained in the system all that time? Curious things were found in the blood of human beings in different parts of the world. Manson had theories that the *filaria sanguinis hominis* was the cause of elephantiasis, but filariæ were found in the blood of persons who were not suffering from elephantiasis. Indeed, it had been stated that 10 per cent. of the Chinese had filariæ in their blood. Again, the spirillum which Carter thought distinctive of relapsing fever had been found in the blood of persons not so affected. Sir William Moore considered that a more rational and a more recognizable cause of paroxysmal fevers and malarious diseases generally could be found. Dr. Maclean had said that the heat-generative powers of all victims of malaria were impaired; but he (Sir Wm. Moore) said the heat-generative powers of all victims of heat were impaired, and their skin, in consequence of the excitation and consequent debility from heat, becomes so sensitive that they were specially liable to all changes of temperature. The effects of heat on the human system were referred to at some length. It was formerly taught that congestions and inflammations were originated by the rush of blood to internal organs consequent on a chilled surface, and probably this teaching was not altogether incorrect. Others had regarded chill as acting by a depressant effect on the nervous system. It was more recently advanced that chill indicated disturbance of protoplasmic molecular correlations, or, in chemical language, that new bodies were evolved in the protoplasm, which acted as veritable poisons. With regard to the periodicity which was supposed to characterize maladies produced by malaria, periodicity was a characteristic of all Nature, more or less; but there was no periodicity in enlarged spleen supposed to arise from malaria, and even ague sometimes became so irregular that it lost all claim to be considered a periodic malady. When ague presented in temperate climates, it did so in the autumnal season, when changes in temperature were greatest, and it did so in marshy localities where damp was added to cold, damp cold, having the greatest power of abstracting heat. His position was, that so-called malarious fevers were caused by the sudden abstraction of heat, or chill, under the influence of cold, and especially of damp cold; and that the characteristic effects of chill were most marked in hot climates, because of the antecedent exposure to great solar heat and disregard of suitable precautions. He thought if they could wash in the waters of Lethe, so as to emerge fresh to the subject, the contradictions involved in the theory of malaria would lead to the abandonment of the belief. It was the heat, and not the malaria of tropical climates, which produced anæmia and blood degeneration, as well as fevers.

TREATMENT OF CHRONIC CYSTITIS IN WOMEN.—The successful treatment of chronic cystitis in women requires an unusual amount of patience, skill, and tact on the part of the surgeon.

In the first place, functional bladder trouble has to be eliminated from true cystitis. Pain about the pubic region and pelvis generally, frequent and painful micturition, tenesmus, the sensation that the bladder is never emptied, going on day and night for weeks, producing emaciation, exhaustion, and a life of wretchedness, may be due to a great variety of causes. It may be purely functional; piles, fissure of the anus, an ulcer of the rectum, or thread-worms in this organ, may cause reflex bladder symptoms. Malaria may provoke vesical irritability: sometimes this happens without serious disturbance of the organs of digestion or alterations in the character of the urine; under such circumstances the only explanation that can be given is, the effect of malaria on the nervous system.

We cannot help believing true vesical irritability is occasionally a pure neurosis; certainly there are cases which can be explained in no other way. As our knowledge of pathology, however, increases, these cases of neuroses of the bladder, as well as of other organs, will become less frequent; improvement in our knowledge of the pathological changes which take place in the female urethra will surely contribute to this end. Masturbation is another source of vesical disorders; congestion of all the pelvic organs, and irritation of the meatus urinarius, follow its prolonged practice. Diseases of the uterus, especially of the

cervix uteri, and displacements of the womb, are common sources of functional vesical disorders. Pelvic abscesses and tumors frequently provoke this trouble. One of the most persistent and painful cases of functional vesical trouble that I have ever seen, was in a woman who still menstruated regularly at 47 years of age. She had constant but not very severe pain until the monthly period came on, when the pain became very severe, and morphine was freely given to relieve it. I removed, in this case, the left ovary and tube, finding upon the latter a neuromatous growth about as big as a marble. She went home in a month, entirely well.

It is pretty safe to conclude, when the urine is normal or nearly so, that the disorder is functional, and not true cystitis. Again, as a rule, with of course exceptions, when a woman has to void her urine frequently, and suffers pain in the act, but is relieved when the viscus is empty, or, if she attempt to hold the water too long, spasm of the bladder comes on, and the urine is involuntarily ejected in spurts, then the trouble is functional. But when there is great and prolonged tenesmus, with pain and straining after the water has all come away, as a rule there is real disease of the bladder or urethra.

The only way to treat functional bladder trouble is, of course, to correct, if possible, the cause. A displaced womb must be replaced, and retained in its proper position; a diseased womb must be cured, rectal trouble relieved, a foreign body in the bladder removed, etc. It is of the treatment of true cystitis, chronic in character, uncomplicated by other disorders, that I wish to speak.

Generally, in chronic cystitis, the urine is loaded with phosphates and muco-purulent matter; it is also more or less alkaline. Before any operative interference is undertaken, the urine should be made normally acid; this can generally be accomplished by the free use of citric acid in the shape of lemonade, or lemon juice and water; the mineral acids act more slowly, and benzoic acid is not often well borne by the stomach if administered for too long a period of time. I have seen the use of citric acid in one day remove a thick phosphatic crust on the edges of a vesico-vaginal fistula, or on the wound through the perineum in lateral lithotomy.

The first step in the surgical procedure is, to dilate the urethra far enough to temporarily paralyze the sphincter muscle. This should be done while the patient is under the influence of an anæsthetic. I use for dilatation a three-bladed urethral speculum, and after the expansion has been continued far enough, the speculum is removed and the finger introduced into the bladder. The dilatation should be done slowly, twenty or thirty minutes being required before the process is complete; after this a short piece of drainage tube is introduced into the bladder, and the urine allowed to drip into a cup between the legs of the patient if she lies on her back, or close to the hip if she is lying on her side. The latter is preferable, as in that position the tube is more easily retained The tube should be introduced into the bladder only far enough to drain the organ, and the free end should be just long enough to drip the water into the cup; if too long, it will be pulled out of the bladder by its own weight. The object of the treatment is to give the body complete rest. The tube should be kept clean by occasionally washing or changing it. It is a good plan to wash the bladder out through the tube with hot water once or twice a day. I published an account of the treatment of obstinate chronic cystitis by drainage in 1874. Since that time I have repeatedly resorted to it, and with great success. For the last three or four years I have added dilatation of the urethra to the drainage, in this way making physiological rest of the organ more complete. If the paralysis of the canal and sphincter pass off before the cure is effected, dilatation must be repeated.—Hunter McGuire, M. D., in *University Med. Magazine*, Dec., 1889.

Confectioner's Disease.—Dr. Rodiguez Mendez, Professor of Hygiene in the Medical Faculty of Barcelona, has just published in a new Spanish journal, La Medicina Practica, some notes of a case of a peculiar affection of the fingers and nails which appears to have been due to the patient's trade, that of a confectioner. Foucet, of Paris, and Albertin, of Lyons, have already observed the existence of this affection among those who are engaged in the calling of a confectioner. Dr. Mendez's patient was a man about forty years of age. When seen first, every finger on both hands was affected, but not to the same extent. The worst was the middle finger of the right hand; here the anterior part of the nail was thickened and flattened, so that it had the appearance of a spatula, which is one of the signs noted by Albertin as occurring in his cases; the base of the nail was covered by a swollen portion of the soft parts which was not adherent to the nail, and which was of a bright red color, with fissures as well as ridges on its surface. In it there were a number of minute abscesses, from the openings of which little beads of pus could be made to exude by pressure. The disease was evidently a combination of onychia with paronychia, and it was a remarkable point in the history of the case that the man had suffered in a similar manner, only much less severely, some years before when he first practiced the trade of a confectioner, and that when, for some cause totally unconnected with his malady he had given up the trade, his fingers quite recovered. After a time he again took to the trade, but was at first engaged in making pastry and arranging the ornaments, during which time his fingers remained quite well. As soon, however, as he began to work on *marrons glacees* and on crystallized fruit, his fingers began to become sore just as they had done in the former times. There could be no doubt that the affection was due to the immersion of the hands in hot and cold syrups, and the rubbing in of sugar, which, according to Remy and Broca, has the property of causing the tissues to become gangrenous. Dr. Mendez suggests that in this way openings were made by which micrococci obtained access. His treatment consisted in washing parts with a boracic lotion and wrapping them in boracic cotton wool. Of course the patient was enjoined to discontinue working at his trade.—*Sc. American.*

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Original Articles.

TREATMENT OF CHOREA—GENERAL INDICATIONS.

A CLINICAL LECTURE BY DR. A. OLLIVIER, PARIS, FRANCE.

Gentlemen:—Before taking up the difficult problems which the treatment of chorea suggests, I have thought best to recall to my recollections and read you the observations collected by my pupils and myself on the subject since my first connection with this hospital [*Enfants Malades.*] Need I tell you that this undertaking has led me to a conclusion which is well calculated to cause you no little discouragement? After having made this retrospective review with all the care possible, I asked myself if I had ever succeeded in abridging by a day the duration of this disease; if even it would be possible by an early treatment to modify the processes, and with certainty prevent the complications which threaten our little ones?

When practitioners ask themselves such questions, you may be sure that they have already arrived at the state where they have but a relative confidence in the remedies called infallible, and that they have attained to that rational eclecticism which might be also called a mitigated scepticism.

In my case, it is no longer of doubt that I speak, for I am in condition to affirm that there is no specific treatment of chorea, but that the treatment is based on individual indications. I add, that if I could have hesitated an instant before this conclusion, I should have been led to it by the observations of my *confreres.* I have read many treatises on the subject, and they all maintain a sceptical reserve with regard to curative methods and medications; I will call attention to three of the more recent: the article of Raymond in the Dictionnaire Encyclopedique, and the published lectures of Dujardin-Beaumetz and Cadet de Gassicourt. M. Raymond, after having recognized the absence of causal indications, declares that we have nothing to guide us but hypothesis, analogy, and empiricism. It is better to follow these than to venture blindly, but they are at least but makeshifts.

"The list of medicines proposed is very large," says Cadet de Gassicourt, "and this is as much as to say that most of them are inefficacious. I will add, even, that every kind of treatment is inefficacious if it has for its object to abridge the course of the disease."

"Like every disease which tends of itself to recovery," says Dujardin-Beaumetz, "chorea has received a variety of treatments; it has been natural to attribute to the medicine the cure which one has observed."

This uncertainty does not surprise me. To attack in a decisive manner a disease at its origin, it would be necessary to know this origin. If you will take pains to refer to what I have said in previous lectures, you will see that in the antecedents of the little patients concerning whom detailed observations have been given, thirty times rheumatism was found having a causal relation to the disease, and thirty-eight times nervous accidents of different nature.

The influence of rheumatism and of an undetermined multiform nervous state;—this is all that we know that is precise respecting the etiology and pathology of Sydenham's chorea. This is but little to serve as a basis for indications; it is so little that all those who have looked exclusively in this direction for light as to treatment, have only met with disappointment. Remember once for all, the struggle against predispositions is always uncertain and unsatisfactory, when they have produced their effect, and one has before him a stated morbid complexus.

I have undertaken to point out the gaps in our knowledge, but I would not, however, make these discouraging considerations the basis of a therapeutic nihilism. I would not affirm that the *initium sapientiæ* is the *timor medicamenti.* We have no rational causal indications, and at the same time, our results are not bad. We treat from one day to the next, without any other rule than the predominance of this or that symptom; death occurs very exceptionally. Empiricism has furnished us arms which the methodical and thoughtful study of the disease had been impotent to give us. This is often the case in medicine.

Let us take a case of simple chorea without complication. What dominates the scene from the first to the last day, is the convulsive movements. On their frequency and intensity depends the gravity of the disease. It is these that hinder nutrition, that deprive the patient of rest, and bring about, in the long run, ner-

vous exhaustion and organic inanition fraught with dangers.

Sufficient account has not, perhaps, been made of this fact: the movements which our muscles perform in accomplishing a stated amount of work, effect changes in their constitution, of which fatigue is the first manifestation.

Let the rest be insufficient, alimentation imperfect, and inanition surely comes about; a long time ago military physicians pointed out this fact in the case of soldiers subjected to marches and counter-marches, to frequent alarms, and this, even, when provisions are not lacking. The incessant agitation of choreic patients is the more certain to accomplish this same result, from the fact that it is always or almost always accompanied by an unfavorable mental condition; the child is uneasy, ashamed, and sad.

Lydenham's chorea, be it remembered, is a cyclical disease; we cannot cut short its duration, but if we succeed in keeping within tolerable limits the muscular instability, in enabling the child to bear its neurosis without its general health materially suffering, and without being doomed to remain a long time afterwards a prey to a profound anæmia and denutrition, we shall have treated our patient as well as in the nature of the case it is in our power to do, and our empirical medicines will have rendered their incontestible service.

Do not think, gentlemen, that we are always tied down to an iron empiricism, and that we can only say: "Such a medicine has succeeded four, six, or ten, cases; we will give it and see what will follow." The propounders and advocates of new methods have all had forethoughts of a doctrinal character; it is almost impossible in medicine to get along without such forethoughts. We are in presence of convulsions of a great part of the muscles of the body. They will end in the fatigue, in the relative repose of this and that group of muscles; what if we hasten the coming of this phase, what if we fatigue rapidly all the muscles by putting them in a state of tonic contraction? It was probably as the result of reasoning of this kind that Trousseau recommended strychnine. He administered this dangerous alkaloid with a hardihood scarcely credible. Children of from five to ten years of age took daily amounts equivalent to a grain of strychnia. The result was more than once favorable. Trousseau's new treatment was adopted abroad, and we find even West and Hammond advocating it.

Despite all this, however, distrust of this method has prevailed; one risks too much for a problematical result. Turnbull aimed to respond to the same indication by sulphate of aniline; he succeeded neither better nor worse I have never employed these substances, and therefore can say nothing about them.

If venturesome medical guides have shrunk from a method whose result was to provoke tonic contraction, they have thought that they might succeed better by paralyzing the ill-disciplined muscles. In England, Drummond and others endeavored to accomplish this by curare. I only know of this mode of treatment by hearsay, for I have never applied it or seen it applied in Paris; but it is in this very amphiteatre that Bouchut first recommended eserine; it is in this hospital that he cured children in eight days with this medicament. Eserine has been abandoned like hyoscyamine from which Oulmont hoped so much.*

The next step (and I think it was a step in advance) was to fix the attention more on the nervous system than on the muscular fibres themselves. It is, in fact, difficult to suppose that the brain and spinal cord are not primarily concerned in the strange episodes which mark the course of a chorea however normal. It is useless to make great and learned efforts to establish according to their action a classification of the medicaments employed; for example, to oppose to the modifiers of the excito-motor power of the centres such remedies as produce only anæsthesia or sleep. What we well know relatively to most of them is that they act by the intermediation of the nervous system; I do not make exception even of tartar emetic.

The name of Rasori is identified with a doctrine which was very much in vogue at the beginning of this century. The doctrine of contra-stimulism had thirty years of popularity; it entered for a while into competition with what was called physiological medicine; the dispensing of tartar emetic was only matched by that of leeches in most of the pharmacies. At the present day we concern ourselves little with those old notions of sthenic inflammation and exaggeration of stimulus. But if these hypotheses have shared the common lot of hypotheses, there remain procedures which are not bad, and which ought not rashly to be condemned as though they rested on an unsound basis. The treatment of chorea by tartar emetic is a derivative of the old and now discredited doctrine of Rasori. At the same time, it is not for this reason to be utterly discarded. Gillette has so well layed down the rules of this method that it deserves to be called by his name.† You give to your little patients a stated doses of tartar emetic. You let them rest awhile, and you begin the medi-

*Bouchut, Therapeutic researches on the action of eserine in chorea (Bull. de Thér., 1875). Oulmont, Treatment of chorea by hyoscyamine (Bull. de Thér., 1875).

† Now called in France Gillette's Method, See, "On the Treatment of Chorea by Tartar Emetic" (*Bull. de la Soc. Mil des. hôpitaux*, March, 1858).

cine again, augmenting the dose. These were Gillette's rules: The first day hourly doses were given till 3 grammes were taken. The next day the dose was doubled, the third day it was tripled. Then the child was allowed to rest for three or four days, and if he did not get any better, the medicine was recommended in the dose of four grains the first day, eight grains the second and twelve grains the third day. Then there was another interval of three or four days, and the medicine was renewed in doses of five grains the first day, ten grains the second, and so on. I do not regard this method as bad; if it does not cure, it produces an improvement which is often rapid and extremely advantageous in grave cases.*

It seems to me that the sedative effect of the tartar emetic is produced through the medium of the nervous system; we bring about a sort of a therapeutic depression which is antagonistic to the choreic movements. It must be admitted, however, that the depression and sedation thus obtained, and which really wonderfully mitigate the chronic manifestations, constitute a minor degree of stibium poisoning.

Chorea is not what might be generally called a sthenic affection; we shall see presently that it is on the contrary debilitating, but we cannot say that it has in all cases this character. You have seen at this clinic ruddy, robust looking girls; if they had not been fatigued by involuntary movements of an exceptional intensity, we might have said that they were enjoying the best of health. It is in such cases that Gillette's method appears to me to work well; it transforms a grave chorea into one of moderate intensity, and as the economy had at the onset a good reserve fund of vital force, convalesence will come on in due time and pursue its course.

I like somewhat less Labelski's treatment, *i. e.*, the application of ether to the vertical column by means of a spray-producer. It has the advantage, however, of being harmless, and it certainly does sometimes afford relief when the choreic agitation is not too great. In bad cases I have derived no benefit from it.

In the past few years I have employed, instead of ether, methyl-chloride; I have had better success with it. We project vigorously the gas upon the vertebral column by means of an ordinary syphon; the refrigeration produced thereby, which is considerable, is painful, and sometimes we have, here and there at the points the most congested, little eschars. By using Bailly's modification we avoid this; his method consists, not in congealing the skin directly by a jet of gas, but by the aid of a wad, or compress, which plays the part of a refrigerant tampon. This, Bailly calls *stypage*.

[* Good authorities, as Dujardin Beaumetz, condemn this method *in toto*. See Clinical Therapeutics, Article, Treatmen of Chorea.]

Electricity has been employed in the form of constant currents by Remak and Onimus. I have treated several patients in this manner, and the results have not encouraged me to keep on. I do not condemn the treatment, but it seems to me to be untrustworthy. The electrical bath, counseled by Constantin Paul, does not seem to do any better.

The results obtained by the aid of these therapeutic methods, some of which are expensive, and which cannot be applied in all cases in private practice, have not been brilliant enough to lead one to think very highly of them, and physicians are likely to prefer remedies administered by mouth which, under the name of nervines and antispasmodics, have been found to calm the excitation of the nervous system. In the first rank come the bromides, and particularly the bromides of potassium and sodium. Dujardin-Beaumetz thinks that bromides succeed best in doubtful choreas with a hysterical substratum. I have obtained good results from it in cases of all kinds; it is, in fact, the medicine that I prefer in intense choreas complicated with cardiac accidents. Bromide of potassium is given along with arsenic, the dose of the salt being 30, 40, and even 60 grains a day. It must be admitted, however, that the bromide has its disadvantages; it acts slowly, depresses and anæmiates the subject. Hence Cadet de Gassicourt assigns it the second place; he prefers to begin with chloral, and then give the bromide in small doses in order to continue the improvement begun. I speak only from memory, of oxide of zinc; which has hardly been used outside of England and the United States.

Perhaps antipyrin is destined to supersede bromide of potassium. It is a new remedy, of which much is expected, but we are yet far from knowing all that is to be known about it. It is only three years since it was regarded as the first of febrifuges, nothing more; it was soon discovered that it had marked analgesic and calmative properties, and it has taken its place among the sedatives of the nervous system; it attenuates epilepsy, cures migraine, and perhaps also chorea.

In a communication made to the Academy of Medicine, Dec. 27th, 1887, U. Legroux pointed out this property, and reported several cases in which antipyrine had sensibly shortened the duration of the disease. Since then, one of his pupils, Dr. Texier declared in his inaugural thesis that antipyrine in the dose of fifteen grains, three times daily, ordinarily suffices to calm the choreic agitation, that it is well tolerated, and may be with impunity administered to children for several successive weeks. This is an incontestable advantage. I am a little skeptical of the curative properties of antipyrine in chorea. I have known for the past twenty-five years so many medicines, once

pronounced infallible, to fall into desuetude, that I am little disposed to take hold with enthusiasm of anything that is new. At the same time, I admit that antipyrine is a good sedative, that it diminishes the energy and frequency of the muscular contractions, and thus removes from the choreic process a part its dangers; I have noticed this in a number of cases. As for the disadvantages that may arise, we shall perhaps know them later; they will be a factor of which we should make great account when we come to formulate the indications for this medicament.

Before organic chemistry had furnished us a number of medicaments unknown before, preparations of opium were tried; children support them badly. Later on, patients whose contractions were outrageous, were put under chloroform; this was a procedure of urgency which could not be applied systematically. Chloral has taken the place of all the narcotics previously in use; it is well tolereted; the children are put to sleep, and kept asleep during long periods of the disease; the *vis medicatrix naturæ* intervenes, and as a sequel of many of these periods of repose, the amplitude and the frequency of the movements diminish; there is an attenuation of the intensity of the disease. Unfortunately, one cannot always and in all cases give 20, 30, 40 and even 70 grains of chloral; children sometimes vomit it; it is a dangerous remedy when there are cardiac complications, and I do not dare to resort to it in such cases. Where there is any concomitant affection of the heart, I should certainly choose bromide or antipyrine.

There are medications directed to the general condition, which but indirectly restrain disorderly movements. Common chorea is a debilitating affection; it fatigues and anæmiates; some have even referred the cause of the disease to what are really its consequences. The child is apt to get into a vicious morbid circle. The muscular instability enfeebles; the enfeeblement exaggerates the muscular instability. After a certain period, amelioration would take place if nutrition were perfect, but by reason of failure of nutrition the muscular contractions continue. In these conditions, gymnastics are salutary. Often, when applied from the beginning of the disease, they attenuate the disorderly movements, and prevent them from taking on an exceptional gravity. Massage is equally of great benefit.

When there is no affection of the heart, hydrotherapy is of considerable utility; iron and arsenic, which have had their time of vogue, are essentially advantageous. I do not believe that they diminish any more than other remedies the duration of the malady; I do not suppose that they act as sedatives of the nervous system, but they fortify the organism and prevent denutrition.

To sum up, gentlemen, we see that for mild cases of chorea our aim should be to improve the general conditions; to remove or attenuate all causes of fatigue, physical and mental; to place the child in the best possible surroundings from the point of view of hygiene; to fortify it by gymnastics, iron, arsenic, preparations of cinchona, etc. In the case of grave chorea, we should have recourse exclusively to the nerve sedatives, of which the choice should be regulated by the peculiarities of the case.

THE EVOLUTION OF THE LOCAL VENEREAL DISEASES.*

BY G. FRANK LYDSTON, M. D., CHICAGO, ILL.

My esteemed friend, Dr. Lewis, has done me the honor to present through that excellent medium, the Weekly Medical Review, a criticism upon my paper, "The Evolution of the Local Venereal Diseases," which he read in the discussion of said paper at the meeting of the Mc Dowell Medical Society, at Henderson, Kentucky, November 11, 1884. Dr. Lewis' paper was also published in the MEDICAL AGE.

In justice to myself and to the theory which I have advocated, I shall take the liberty of answering Dr. Lewis through the same media. I will therefore present as nearly as possible the remarks with which I closed the discussion of my paper at the Society meeting.

Dr. Lewis states that it has been finally settled that "the world do move," but that "it doth move in a circle, in its opinions as well as in its orbit." He further goes on to say that practically my views would throw the differentiation of venereal diseases back several centuries into the confusion of the past. Upon the assumption that I stated in my paper that chancroid and gonorrhœa were identical, his remarks in this connection are not only irrelevant but a trifle inaccurate. The assertion that a clear definition between chancroid and gonorrhœa existed centuries ago, at which time syphilis was probably unknown, is not only very sweeping, but in the light of syphilogical history will hardly stand. Chancroid as an entity was practically unknown until the time of Bassereau, but was supposed to be a part and parcel of syphilis. Syphilis, although unknown to European writers prior to the latter part of the 15th century, at which time, as Dr. Dewis states, it made its *debut* into society, was unquestionably recognized and well understood in Asia several thousand years ago. Ancient Japanese writings describe the disease quite accurately. Dr. Lewis seems to consider the distinctions between chançre and chancroid to be so clear that there should be

*An answer to Dr. Bransford Lewis on the Independence of the Local Venereal Diseases.

no possibility of confusing the two. I myself, while believing them to be distinct and separate entities am willing to admit that the borderline between the two is by no means well marked in a large proportion of cases. Were I inclined to believe the two diseases to be the same I would have plenty of excellent company. It would not surprise me if a relation between chancre and chancroid should yet be established on thoroughly scientific grounds. Even so eminent an authority as Jonathan Hutchinson, has recently intimated in his Lettsomian Lectures that there is a relationship or interdependence between syphilis and chancroid.

In my paper upon the evolution of the local venereal diseases, I made no mention of syphilis; which was in itself a tacit admission that that particular disease is a distinct and specific entity. That it, however, may have evolved from a disease which was primarily local, I consider to be within the bounds of possiblity. The strictly local character of gonorrhœa and chancroid and their community of habitat, taking the sexual organs as a whole is, at least, a warrant for the suspicion of their co-relationship. It has been questioned by very excellent authorities whether gonorrhœa is in any sense a specific disease. I admit in my paper—and this point Dr. Lewis evidently does not understand—that by a process of evolution of the products of a primarily simple inflammation a type of disease, urethritis or vaginitis (*i. e.*, gonorrhœa) may eventually be developed which is specific, in that when transplanted to a perfectly healthy mucous membrane under favorable circumstances of environment it produces a typical result. I did not state, as Dr. Lewis seems to infer, that gonorrhœa, chancroid, chancre, herpes, etc., are merely different phases of the same disease, nor that the inoculation of gonorrhœal pus produces chancroid, and that the inoculation of chancroidal pus produces gonorrhœa. Dr. Lewis' understanding of my position is equivalent to that of those who believe that Darwinism simply implies the lineal descent of man from monkey—whereas Darwin claimed nothing of the kind.

The basis of my position is:

1. The dependence of the local venereal diseases upon the action of germs either directly or through the medium of their products.

2. The susceptibility of said germs to evolutionary progression and differentiation.

Now, if the germ theory of infectious diseases be accepted and the germ of any particular disease be admitted to be the living organism, we must apply the same laws of evolution to the germ that we apply to the animal which it affects. The law of evolution applies with equal force to the germ (parasite) and the animal (host) whom it infests. The law of evolution does not accept as tenable the theory that all living organisms were created primarily as they are; that they always existed in their present condition of development. *Per contra* it is believed that all living organisms of whatever kind are the lineal descendants of organisms of more or less complex organization and of greater or less degree of differentiation. Now, if the germ be susceptible to evolutionary laws, there must necessarily be a variation in its results from time to time. The germ which to-day produces a malignant type of diphtheria may be, and in all probability is, the lineal descendant of a germ which was innocuous. The co-relationship of simple and severe tpyes of disease due to the same cause, *i. e.*, dependent upon the same germ or *materies morbi* is recognized at the present day by every logical and scientific thinker in the medical profession. Observe, for example, the wide variation between the mild and severe types of diphtheria, scarlatina, small-pox, typhoid fever, etc., and yet both mild and severe types, dissimilar though they may seem, are precisely identical. Observe also the wide difference which exists between vaccinia and variola, yet vaccinia is in all probability a derivative of variola, and unquestionably protects the individual whom it affects from its more serious progenitor. Is there any possibility of changing vaccinia into variola or variola into vaccinia as they exist in typical examples of each disease? No. And yet would it be logical to deny their co-relation upon this ground? Now, what is it that modifies the results of bacterial infection? Simply degree of cultivation, dose, length of time of exposure, individual susceptibility, environment of the individual,—and in the case of local diseases, the local environment of the germ. Has it not been shown in the laboratories of Pasteur and his disciples that artificial cultures of bacterial organisms may result upon the one hand in an intensely virulent poison, and upon the other in one which is perfectly innocuous, there being between the two extremes any number of variations in degree of severity of the results which the germs are capable of producing when inoculated upon the animal body? Are not these experiments a criterion of what is possible, and in all probability is constantly taking place in Nature's laboratory? Is it possible for a Pasteur, with all his skill, to reproduce the exact conditions under which germs are developed in the animal body; or, for that matter, in the filthy and ill-ventilated sewer? Knowing, then, the possibilities of Pasteur's experiments with his limited opportunities for imitating the conditions under which germs develop in what may be termed their own normal existence, is it not presumable that still greater possibilities of variation are to be expected from germs which develop in the ani-

mal body, or in, as I have before remarked, the filthy drains?

The consenus of scientific opinion at the present day is to the effect that gonorrhœa and chancroid are filthy diseases. If these diseases result from filth in the sexual organs of women, how do they originate if not by a process of decomposition of organic materials, which decomposition is set up by the ordinary germs present in the atmosphere? These germs, aside from their properties of exciting decomposition, are innocuous. They have the property of developing poisons in putrescrible fluids. They accomplish the result by procreation and multiplication, and it is the successive crops of germs that are virulent, not the parent stock. Would Dr. Lewis claim that the germs of gonorrhœa and chancroid exist in the atmosphere as specific entities, or that they were implanted in the sexual organs of women as a special act of beneficence on part of the Creator? If he does not claim this, he must admit from his knowledge, which I believe to be considerable, of the life-history of germs, that there must necessarily be, through a process of adaptation of environment, a variation in the successive crops or cultures of germs, and the consequent acquirements of properties varying in degree, and possibly in kind, from those of the parent stock. With a variation in these properties must necessarity come a variation in the effects of the germ when inoculated upon healthy tissues.

If my position be not correct, we must throw the evolutionary theory out of court, or if we accept the evolutionary theory, we must throw the germ out of court as regards its relation to the venereal diseases. If we admit the dependance of an infectious disease upon a germ, and said germ is admitted to be a living organism, we must admit, *nolens volens*, that the germ is susceptible to evolutionary laws.

I am free to admit that, it will be impossible for me to convince anyone who accepts the theory of creation as laid down in the book of Genesis of the correctness of my position in regard to the evolution of the local venereal diseases. If the argument be advanced that I am wrong because the world was made in six days, and finished on the seventh, it will be impossible for me to answer it. If Dr. Lewis denies the correctness of my position, I would respectfully ask that he distinctly state what he believes to be the character of the poison of gonorrhœa and chancroid, whether it be a germ or not, and if a germ, where it came from? Was it created just as it is, and for the purpose to which it seems best adapted—that of infecting the sexual organs of unfortunate humanity? Or is it a germ which, as I claim, was primarily innocuous, but which through favorable circumstances of environment has become infectious and virulent?

To conclude, I will state my position again as being simply this:

1. I believe that gonorrhœa and chancroid are germ diseases.

2. That the germs of these diseases are the lineal descendants of organisms which were primarily innocuous.

3. That the innocuous properties of the highly cultivated germ are the result of an adaptation of environment.

4. That through successive cultures in a favorable environment a type of germ may finally develop which produces a typical, *i. e.*, so-called specific, result.

5. That between the primal point of departure from the innocuous germ, we have through the medium of decomposition the addition of filthy discharges and a perverted state of the secretions incidental to constitutional depravity, a number of varying grades of virulency of germ capable of producing the widest variation in results.

6. That, although gonorrhœa and chancroid are apparently distinct and separate diseases, yet they are the results of the cultures of germs derived from the same parent stock, the lines of divergence being similar to those laid down in the scheme of Darwin, and the terminals of those lines being apparently widely different.

I believe that the difference of opinion existing between Dr. Lewis and myself is mainly dependent upon his misconception of my ideas. This I know to be the case with Dr. Dixon, whose lecture appears in the same number of the Review as the criticism of Dr. Lewis. I regret that I have not the time and the MEDICAL AGE has not the space requisite to a complete presentation of my views.

My paper, as read at the McDowell Society, will shortly appear in the New York Medical Record, and I trust that it will make my position clear to the various prominent gentlemen who have honored me by giving such fragments of it as have appeared, their attention. Unfortunately, Dr. Lewis' criticism is based, not upon the paper which I actually read at the McDowell Society, but upon a short, and more or less fragmentary, presentation of the subject which appeared in the Detroit MEDICAL AGE. In this paper, which was really a lecture upon Gonorrhœa, delivered at the College of Physicians and Surgeons, I made no attempt to thoroughly outline my position in regard to the origin of the disease, but simply hinted at it in a general way wherever necessary to complete the continuity of the lecture.

Dr. Dixon really supports my position while trying to upset me. He says: "If the cause of gonorrhœa be, as is claimed and as I believe, due to the gonococcus of Neisser, then if the theory of evolution be true—and I believe it is—gonorrhœa can be produced by nothing beside the gonococcus, and the gonococcus will

produce nothing beside gonorrhœa, and I should as soon expect to plant a grain of corn and see a stalk of wheat evolved from it, as to see chancroid produced by infection from gonococci. We all know that originally the horse was a very small animal with five toes upon each foot, and that by a process of evolution it has reached that perfection of form and action which we so much admire, but by no process of evolution can it ever be other than a horse."

My Dear Dixon, who can dispute the logic of your position? But what about the gonococcus before it evolved into a gonococcus? Did not the intermediary germs possess properties differing from those of the gonococcus as it is met with in its inferentially perfect condition? To be sure, the horse was originally a very small animal with five toes, but, my dear doctor, was it a horse? Do you believe that you could recognize the lineal ancestor of your thorough-bred if you had him before you on your office table? Just imagine the wide variation of type between your five-toed animal and your Kentucky thorough-bred! Establish so trifling a process as cross-breeding, and lo and behold your horse is a mule! There is, of course, a typical chancroid, and a typical gonorrhœa, which we are pleased to term specific, but they are specific by virtue of their present properties rather than their origin, with, I believe, that they have a community of origin, but that through evolution they finally became apparently distinct and separate morbid entities. I believe also that if we could reproduce the precise circumstances of environment under which spontaneous cultivation of the so-called specific poisons occur, we could produce by attenuation varying types of diseases ranging in severity from simple urethritis, balanitis, and herpes up to a virulent urethritis and phagedenic chancroid. A very powerful element in producing variations in the poisons of the local venereal diseases is, in my opinion, morbid changes in the secretions of the female sexual organs incidental primarily to perverted tissue metabolism, and secondarily to a vitiated state of the secretions. This is, I believe, the mysterious connecting link between the varying types of venereal diseases, and is the explanation of those mysterious cases in which an individual contracts disease from an apparently healthy woman, which mysterious cases we are prone to explain upon the ground of untruthfulness on the part of the affected individual, or the person from whom he contracted the disease.

My views upon this subject have been presented in a more comprehensive manner than is possible here, in the Medical Mirror, for January, 1890.*

* "Gonorrhœa in the Female."

PHLYCTENULAR OR SCROFULOUS OPHTHALMIA.*

BY DR. WILLIAM CHEATHAM, M. D., LOUISVILLE, KY.

Phlyctenular, strumous, scrofulous, and pustular ophthalmia, and herpes of the cornea and conjunctiva are some of the names given the affection with which I wish to deal in this paper. Some of the authors divide this affection into two or three different classes, but to this classification I do not propose to pay any attention here, as it would, I believe, only get the general practitioner—for whom this article is written—more mixed as to its diagnosis and management.

I think the best way to consider the subjects is to give the history and management of such cases as we meet in our daily work. A child comes to me with the following history: Doctor, my little girl some few days ago, awoke saying her eye felt as if she had something in it. Her lids were probably slightly glued together, so there was some trouble in opening them; the trouble has increased from day to day. As the little one enters the office her head is bent down, or if in her mother's arms her face is buried in her mother's bosom; she cannot bear a particle of light, wants to lay all day in a dark room with her face buried in something. On forcing the little one to expose her face to view, the lids will be found to be firmly closed, so tight that the lashes will be turned in against the eye. At the external angle of the lids there will be considerable inflammation, with considerable redness of skin of face, the result of irritation from the overflow of tears and rubbing with the little one's hand. On taking the child's head between your knees and forcing the eyes open, a tremendous flow of tears will follow. In the ocular conjunctiva we will discover an elevation, crowned by a small blister, which De Wecker says "consists of slight sub-epithelial exudation composed of transparent fluid holding a small quantity of leucocytes which form the phlyctenule; or again the exudation may consist of a number of white corpuscles and a small amount of serum, in fact, of true pustules. Lastly, there may be no appreciable amount of serum, but only of lymphoid cells, which thus form minute abscesses," and here we have described his phlyctenular and pustular conjunctivitis and keratitis. If these elevations or phlyctenulæ are on the conjunctivæ alone, the photophobia will be very slight. The case we have just described will no doubt be one of phlyctenular keratitis or mixed, that is of conjunctiva and

*Read at the Twenty-ninth Semi-annual Meeting of the McDowell Medical Society, Henderson, Ky., November 11, 1889.

cornea both; if on cornea the phlyctenulæ will appear at first as gray spots elevated above the surrounding surface of the cornea. In a day or so the epithelial layer of the phlyctenule will be rubbed off, the contents escape, a small ulcer left, and a filament of corneal nerve exposed. Under proper treatment this may go on to rapid resolution, leaving only a minute scar on the cornea; but again if this ulcer should become infected we should have as a result a deep and even a perforating ulcer of the cornea. The first result though is the most common. Another case may come in, having the sensation of a foreign body in the eye, with little or no photophobia, and we discover on the ocular conjunctiva not far from the sclero-corneal junction, a red elevation, with numerous blood-vessels converging towards it. The disease can be seen to be superficial, with no blue discoloration as seen in the deeper inflammations of the sclera. This is a case of the most simple form phlyctenule of the conjnnctiva.

The management of these cases is quite simple in a great majority of them, but we occasionally come across one, such as referred to above, where the cornea may be perforated, or one in which we have frequent relapses, which puts us to no end of trouble and worry. In these cases the hygienic management and the constitutional treatment is of extreme importance; in fact, the most frequent cause of this affection is bad hygiene. Inquire particularly into this, and make all needed corrections. As to the feeding, cut off all sweets, tea and coffee; give fresh meat twice a day, none for supper; limit the patient to good nutritious food. Keep the patient out of doors as much as possible; examine closely for bad teeth, intestinal irritation, adherent prepuce, and nasal irritation.

The constitutional treatment should be either cod-liver oil, syr. iod. iron, hypophosphites, syr. alb. iron, with quinia and strychnia, or alone. The local treatment in phlyctenular conjunctivitis is, cleanliness, with hot or cold carbolized water, as the patient prefers. Atrophia sulph. gr. ii, aqua dist, ʒi, to be dropped into the eye three or four times a day if the inflammation is severe, or if there is any photophobia. If dry calomel can be dusted into the eye, about noon each day, with a camel's hair brush, do so, or mix the calomel with pulverized white sugar, half and half. The books say be careful about giving any of the iodides internally, and using any form of mercury locally in the eye at the same time. I have yet to see any bad results follow their use. If there is much photophobia and it is difficult to get the calomel in, put a small piece of the following ointment between the lids, and the child will rub it in: Take five grains of the yellow oxide of mercury, and add a few drops of water to it, rubbing them up thoroughly, then add to this gradually ʒss of vaseline; rub until no free crystals can be seen; this, as with the calomel, had better be put in the eyes about noon, or some time before the child goes to sleep, or else, if the child should sleep immediately afterwards, some of the ointment or powder will remain in the inferior *cul-de-sac* long enough to undergo decomposition and irritate the eye very much. If the atropia does not relieve the photophobia and spasm of the lids, cocaine muriate in a two or four per cent. solution should be dropped in occasionally. If it should be put in ten minutes before the powder or ointment is applied, it will render their application so much less difficult. If the cocaine gives no relief, as it may not in some few cases, the irritation being so great it may not be absorbed, then wrap a shawl or towel around the child's body to confine the arms and keep it dry, dip the face in a basin of cold water, and hold it there until the child strangles a little, and repeat this once or twice a day as needed. The child usually shows up with both eyes open. I have had children brought into my office whose eyes had been closed for weeks, the parents fearing the child was absolutely blind. I say I have had such children, after the use of cocaine, or after being dipped in cold water, walk from the office alone, to the delight of the patient, parent, and doctor. I occasionally come across a case to which we have to administer chloroform, and hold the eyes open for ten minutes, and again, occasionally one whose external canthus has to be incised to relieve the spasm, but since the introduction of cocaine, such cases are extremely rare. I must warn you not to leave the treatment off too soon. The local treatment should be kept up for two or three weeks after all inflammation has disappeared; the constitutional treatment for months. Teething children are common subjects for phlyctenular inflammation of the eye, a new crop of phlyctenules often coming with each tooth. The bromides given for their effect, or sometimes applied locally to the gums, act as a preventive. Nursing children too long, sometimes causes this trouble; weaning them and giving them good food, cures such cases without other treatment. But all I have said will be of no service if the home surroundings of the child are not correct.

A not unusnal cause of this trouble of which I have forgotten to speak, is the too early use of astringents in some of the more simple inflammations of the conjunctiva. Atropia with hot or cold baths to the eye, and quinine internally, until the acute stage is passed, will prevent many of the most obstinate cases of this affection.

In some of these cases, especially in those with deep ulcers of the cornea, Eserin sulph.,

gr. ss., to aqua dest., ʒ j., can be used with much profit and benefit instead of the atropia. Eserin contracts the pupil and decreases the tension, thus giving Nature a better chance. This, with the compress, is of much service in some of the more obstinate cases. Beware of all lead lotions, especially when the cornea is involved. Atropia and other mydriatics, where there is so much photophobia, would in the minds of some be contraindicated; not so, however, as the photophobia is corneal, not retinal.

NORMAL LIQUID ERGOT IN ENURESIS NOCTURNA.

BY LEWIS H. ADLER, JR., M. D.*

The subject of enuresis has from time to time occupied the columns of our medical journals. Various remedial agencies have had their strong advocates; the most prominent remedies espoused have been atropine, ergot, electricity, and the sound.

Atropine is a most potent therapeutic agent in the disease. Of this fact, there cannot be much doubt. Dr. Simon Baruch, of New York, read a paper before the Pædiatric Section of the New York Academy of Medicine, Dec. 26th, 1888, in which he strongly advocated the value of this drug in enuresis. This paper was subsequently published in the Archives of Pædiatrics, April, 1889. Later on, during the same year, Dr. Wm. Perry Watson, of Jersey City, N. J., read a paper before the Section on Diseases of Children, American Medical Association, Newport, N. J., 1889, and published *loc. cit.*, October, 1889, in which he cited most favorable results from atropine in 30 cases, unselected. The remedy was used by him as follows:

℞ Atropiæ sulph., grs. ii.
Aq. distillatæ, ʒ ii.
M.

Of which one drop for each year of the age of the child was given at 4 and 7 o'clock in the evening. It was found by actual counting that the ordinary medicine-dropper held eighty drops of this liquid.

Baruch usually gave sufficient atropia in the afternoon at 4, and at bedtime, to *insure dilatation of the pupil.* One sixty-fourth of a grain for children from 6 to 10, and double that quantity for children up to 14, administered at the hours stated, usually sufficed. If the pupils are widely dilated when the second dose is due, it is omitted, thus poisonous effects are usually prevented.

With all that can be said in favor of the alkaloid of belladonna, there are two strong objections to its indiscriminate use in these cases —that is, providing it is not the only remedy in the range of materia medica which can accomplish the same desired result, and it is the purpose of this paper to prove otherwise. The first objection to the drug is, that it is a powerful poison, and to attain the object desired in enuresis, it must be exhibited in as large doses as the system will bear, and the impression thus made should be maintained for weeks.* Such being the case, if a non-toxic or milder poisonous remedy can be found as efficient as atropine, the fact that belladonna and its alkaloid are violent poisons, is sufficient to give the new or less dangerous remedy the preference.

The second objection to the continuous use of atropine in enuresis, lies in the fact, that its secondary effects are exceedingly lasting and unpleasant, not to say injurious. In the first place, to produce its sought for object in the disease under consideration, it must be administered, in full therapeutic doses; one result of which, is to produce a febrile condition of the patient, dryness of the throat and fauces, and a general disturbance of the system. Not only so, but the mydriasis which accompanies either the internal or external use of the drug, is so disagreeable and continuous—(without which result, the drug is worthless in enuresis,† —that a drug free from this effect must, if it be as good a remedy in enuresis, supersede atropine.

In twenty-four cases of enuresis, which came to the Dispensary of the Episcopal Hospital, during September, October, and November, 1889, I was enabled, through the kindness of my chief, Dr. W. T. Van Pelt, to treat all of the patients with normal liquid of ergot (P., D. & Co.'s). The result of such treatment is attested in the following citation of the cases:

Case 1.—Percy H., aged five, has had nocturnal and diurnal enuresis since birth. Prepuce and meatus normal. September 5, 1889, was given 20 drops of ergot, t. i. d., and mother was instructed to see that child was made to empty its bladder at regular intervals, especially just before going to bed at night (advice which was given to all subsequent patients; the importance of which, was strongly urged upon the parents).

September 9, 1886.—Mother reported that child had steadily improved, wetting the bed but once or twice since taking the medicine, with no diurnal incontinence.

Saw the child two weeks later. Neither nocturnal nor diurnal symptoms of the trouble had returned. Told to bring the child back again if any return of the disease occurred, and to cease for the present further medica-

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* Wood's Therapeutics, Materia Medica, and Toxicology, 5th ed., p. 267.

† Baruch, *loc. cit.*, p. 241.

tion. As child did not return, it is safe to predict a cure in the case.

CASE 2.—Harry K., aged six, has always had nocturnal enuresis. Prepuce elongated and tight but was retractible with slight force. Applied for treatment September 6, 1889, was given half drachm doses of ergot, three times daily. Saw the patient again in several days. Mother reported a remission of former trouble, child now only suffering from incontinence of urine every second or third day. The dose was now increased to a teaspoonful, since which time, until his final discharge (one month later), he had no recurrence of trouble.

CASE 3.—Mary S., æt. 12, has always had nocturnal enuresis, and for the last three years diurnal also. On September 10, 1889, she was ordered one drachm of ergot, *q. i. d.*, and did not wet her bed that night. Has not since had any difficulty in retaining her urine either during the night or day.

CASE 4.—Katie S., æt. 13, has always had incontinence of urine at night. September 13, 1889, was placed upon similar treatment to that ordered for Case 3. Marked improvement at the end of a week and in less than three weeks was discharged from further treatment. As in all these cases, patient was ordered to return at once, if any return of trouble came on.

CASE 5.—Robt. L., æt. 7, has had enuresis since an attack of scarlet fever when three years old. Prepuce somewhat elongated and meatus inflamed. He was given 30 drops of ergot, *t. i. d.*, for one week, with apparent cessation of the attacks during the day, but none whatever of the nocturnal symptoms. The dose was now doubled at night time only, and in two weeks the patient was discharged from further observation.

CASE 6.—Mamie H., aged five, has always had this affliction. Placed upon the usual treatment of ergot, 30 drops *t. i. d.* This was on Sept. 23, 1889. Saw patient again one week later. Mother reports that she has not wet the bed since the second day of taking the medicine.

CASE 7.—Eva F., aged three; Case 8, Thos. F. G., aged three; and Case 9, Rich. N., aged four, applied for treatment for nocturnal enuresis. They were each put upon 30 drops of ergot *t. i. d.*, and in less than 10 days, their trouble had entirely ceased. At the end of a couple of weeks more they passed from further observation, not having had any further return of the trouble.

CASE 10.—Annie D., aged seven; Case 11, Wm. F., aged 5; Case 12, Mary C., æt. seven, and Case 13, Thos. K., æt. seven, always have had nocturnal enuresis. They were put upon the usual treatment, ergot, 30 drops, *t. i. d.*, and at the end of a week had had but one or two recurrences each, of former attacks. The dose was now doubled at night time and at next report—one week later—they had had no return of trouble.

CASE 14.—Chas. McG., æt. 12; and Case 15, Wm. M., æt. 15, had each suffered with nocturnal enuresis since childhood. They were placed upon drachm doses of ergot, *t. i. d.*, with some slight improvement, one week later, the dose at night time was doubled, with marked improvement in Case 14. Case 15, did not do so well, and his medicine was increased to two drachms, *t. i. d.*, with a drachm at bedtime. At the end of two weeks both patients had been free from any return of former symptoms, but were now becoming nauseated by the ergot. The dose in each case, was reduced to a drachm after dinner and before going to bed. This was kept up for two weeks longer, and as no return of former attacks had again become manifest, patients were discharged.

CASE 16.—Jas. B., æt. 4, has always had nocturnal enuresis. Prepuce elongated and retracted with difficulty, ordered parts kept clean and retracted daily. ℞ Ergot, 20 drops, *t. i. d.* with the result of going one or two nights a week without a recurrence of the symptoms. Ergot increased 20 drops more at bed time with improvement. This latter quantity was doubled, and finally, increased to a drachm. A month after treatment had not wet bed for a week, an unprecedented occurrence. Saw patient once a week for three weeks, and in that time had wet bed but once. Ten days later patient was discharged with positive injunctions to come back again should trouble return.

CASE 17.—May H., age five, had suffered with incontinence of urine during the day and night, for several years, causing her clothing to be wet, and attended by the disagreeable odors consequent. October 14, 1889, she was put upon 20 drops of ergot at the usual stated intervals, with the result that she was cured so far as the diurnal symptoms were concerned, and would frequently go several nights without the nocturnal occurrence, and then they would resume for a night, possibly several, and then disappear. At the beginning of November the drug was given at night as well as during the daytime and in a few days was increased to a drachm at bedtime. Since which time she had not wet the bed, and by the middle of November she was discharged and the medicine stopped altogether.

CASE 18, Rose D., æt. 9; Case 19, Agnes R., æt. 4; Case 20, Lena S., æt. 5; Case 21, Lillie Y., æt. 5; and Case 22, Clement T., æt. 4, were all discharged from treatment after from two to three weeks' observation. They were each placed upon ergot (P. D. & Co.'s normal liquid), in doses of from 20 drops to a drachm three times per diem. A cure was manifest in from 48 hours to a week, in all the cases.

Case 23, Annie B., æt. 11, and Case 24, Viola D., æt. 8 years, had each to take 2 drachms of the ergot, *t. i. d.*, before a pronounced effect was had upon the enuresis. After Case 23 was discharged, apparently cured, she returned to the hospital in about ten days, saying that the trouble had returned. It was strongly suspected, and apparently confirmed upon examination, that this patient was addicted to the practice of self-abuse. Her mother was questioned and told to keep a watch as to the girl's conduct. She left, and did not return again to the dispensary. Case 24 was cured, having had no return of trouble for two weeks previous to discharge from further treatment.

To sum up, then, the treatment and results in these cases, we find that—

The dose of the drug was 20 drops to 2 fluid drachms, *t. i. d.* in water, the latter dose being required in three chronic cases, one of which took the increased dose at night time only.

Nine cases were benefited by taking the drug about bedtime, and it would be a good rule to administer the remedy as a routine treatment at that time, in all cases.

One case only was not cured (Case 23). She was greatly benefited, however.

Several of the cases were somewhat nauseated by the medicine, but by decreasing the dose and diluting freely wifh water, all the patients were able to keep on with treatment until it was desirable to cease the same.

From the experience had in these cases, it is safe to say that—

1. Ergot is a much less dangerous drug to use than atropine or belladonna (especially to children), and therefore, when equally efficacious, more desirable to prescribe.

2. It is not so liable to produce mydriasis as is belladonna, and when it does so the effect is not so lasting, making it therefore a more congenial preparation to the patient.

3. Ergot is not apt to produce so profound a disturbance upon the system, as belladonna.

4. A reliable preparation of ergot will, if used as advised herein, accomplish as good results in cases suitable for medication, as any drug in the pharmacopœia.

5. When ergot produces nausea, proper dilution with water will obviate the trouble in most cases.

6. The dose of the ergot should be 20 drops *t. i. d.* for a child upwards of 5 years old, and from 30 drops to a drachm or two after meals for over that age. In most cases, an extra dose taken just before bedtime, of even a larger quantity than is administered during the day, will aid materially in the treatment of this disorder.

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NOTES FROM THE CENTRAL GYMNASTIC INSTITUTE OF STOCKHOLM.

BY KATE C. HURD, M.D., STOCKHOLM, SWEDEN.

In 1775, there was born in Sweden a child who was to become the founder of the System of Swedish Gymnastics—P. H. Ling.

He was a thoroughly scientific student, and during the progress of his studies the thought came to him: Cannot the physical well-being of the men, women, and children of this land become greatly improved under a proper system of physical exercise, founded on the strictest physiological and anatomical principles?

At the same time, he conceived the idea of founding a school of free gymnastics and massage, and after some time,the government gave him a building for the purpose of educating a class of young men, and another entirely separate class of young women. For these classes he arranged a fixed course of theoretical and practical lectures and demonstrations. He wrote many books on the subject of school gymnastics and massage which are still works of study and reference at the school. He employed as assistants doctors of high standing, and trainers of long practice in Sweden.

From this foundation has resulted the present Central Institute in Stockholm, at present ably presided over by Prof. L. M. Törngren.

The course of study at the school is two years for women, and three years for men; the pupils are chosen with great care as to their ability and health, the number of applicants always exceeding by five or six times the number which may be accepted. Several pupils may be received from foreign countries, and the entire course of instruction is free for these classes.

Some one may ask, why is the course for men longer than for women? The reply is that the men must learn much more of the heavy gymnastics, military drill, fencing, boxing, etc., and this requires the extra year.

The course opens in September, and closes in May. The daily routine is as follows:

7:30 to 8:30 A. M.; class instructions in the special massage movements, as applied to special diseases by Dr. Levin, a well known physician and advocate of the "Swedish Movement Cure," founded upon his own experience.

8:30 to 10:30; practical work in giving massage to an average of forty or fifty patients, who attend the Institute, as a free clinic. These hours are devoted entirely to women and little girls, and the massage is given entirely by the women students under the supervision of Dr. Levin, who examines each patient thoroughly in the presence of the student who is to perform the massage, and on making a diagnosis,

and on giving due consideration to the causes and symptoms of the disease, he writes a prescription of ten or twelve movements which the patient is to have. The patients go there suffering with the usual variety of diseases, as at any hospital clinic—sprains, rheumatism, hemiplegia, paralysis agitans, locomotor-ataxia, various neurastheniæ, and muscular diseases, dilatation of the stomach, liver disorders, chronic intestinal troubles, pelvic cellulitis, all forms of orthopœdic dfficulties in children and adults, diseases of lungs and heart, all are treated there. Many patients convalescent from long illnesses at some hospitals are sent to the Central Institute on dismissal from the hospital; and even the *influenza*, which is so prevalent in Europe now, is here treated by *manipulations*.

During these hours, the "lieutenants" (male students) are dissecting and reciting anatomy, or commanding classes of gymnastics in some of the various city schools, which are all under the care of the Central Institute, as far as their gymnastics are concerned.

Every school child in Sweden is obliged by law to practice some kind of gymnastics every day, whether he, or she, be strong or weak. If too weak, or if unfitted for the regular class exercises, the child is given special movements or massage, according to the indications, after having been examined by one of the chief instructors or doctors.

From 11 to 12:30 the female students command other classes, sometimes girls, often boys or mixed classes.

The instructor in this branch, Capt. Silow, is one of the best commanders in Europe. His motto is "a sound mind in a sound body." His orders are given so energetically, and without the slightest hesitation or inattention, that it requires the whole mind and body of the pupils to perform the movements in perfect time and harmony. Individual faults are almost foreseen, so keen and experienced an eye has Capt. Silow, and the result of his training is truly marvellous on the development of these young Swedes, not the less as regards their minds than their well rounded, graceful bodies.

The hour from 1 to 2 P. M. is the recreation and resting hour of the students of the Institute. It is their hour of gymnastic exercises, and in their blue uniforms all in their appearance that was tired and pale vanishes and at the close of the hour they look and feel like different beings. Their quickened circulation has not only washed out their broken down brain and muscle cells, but has built up new ones, and they are quite fresh for their anatomy lecture and quiz.

The young men are taught anatomy and the theories and principles of massage by Dr. Murray, who has written many valuable works on this subject.

The work of the day closes for all by a special lecture from Prof. Törngren, the Principal of the school, but the evenings are devoted to the gymnastic clubs for practice and pleasure, and to the long hours of dissection in the almost futile and discouraging attempt to learn anatomy once and for all time. Is there anything so easy to forget as anatomy?

These classes graduate with love and enthusiasm for their chosen profession. Occasionally, as is the case in all schools, the enthusiasm of some one or two leads them to making rash promises of cures which are impossible, and unfortunately causes unjust words of condemnation of the school; the pupils are however exceedingly capable in their line, and prove the most valuable *assistants* to physicians, under whose direction they practice, and with whom they should always work when they devote themselves especially to massage and "gymnastics of the sick."

I think that this is the only institute of its kind in the world—(a normal class for women is now opened in London, under the charge of Mme. Osterberg, a graduate of this Institute, who has charge of the Swedish gymnastics in the public schools of London).

As gymnasts, gymnastic teachers and masseurs, none as well trained can be found in Europe as these Central Institute Swedes, for their whole system is founded on the laws of physiology and gradual development of all the muscles of the body—and of no one group more than another. At the end of the course, naturally are placed the most difficult movements, and the pupils are then ready for heavy apparatus.

Is it to be wondered at that the Swedish nation is so strong in proportion to its numbers, and is it not a natural result that the ruddy, solid and well rounded boys and girls make the strong and healthy mothers and fathers that one sees wherever the Swedes are found.

Were movements adapted to the needs of the American pupils compulsory in all of our schools, and were more attention paid to exercise and hygiene, would there not be less need of medicine, and would not our nation become much stronger and less troubled with dyspepsia and neurasthenia?

It is impossible not to compare the healthy Swedes with the Parisians. The French men and women are so much inferior in stature and constitution, that one feels the contrast immediately, and naturally the question presents itself. Is not this contrast due to the different modes of living? The French children seldom exercise in the gymnasia, they have few vigorous out of door sports, they study much, and

take their recreation in the many theatres, in the comic operas, and other places of excitement but rarely in the open air. It is not strange that all sorts of debaucheries and a weakened generation follow? Spencer says, "Few people seem to understand that there exists such a thing in the world as what might be called physical morality."

M. Guyan says, "If the lazy boy in England becomes the Hercules, it is a compensation and a consolation for their race. Our idlers (French) are "little shrimps," fit to cause the entire disappearance of our race."

Why is it that a nation should follow the teachings and example of the Ancient Greeks in literature, art, music, etc., and pay no attention to the fact that the Greeks gave much of their time to hygiene and bodily development as one of the necessities of their life?

Can the moral and mental powers be developed while the physical nature is being dwarfed?

GOLTUA, A WEST AFRICAN ALTERATIVE.

Dr. E. M. Hubler, an enthusiastic worker as medical missionary in the Liberian missions of West Africa, calls our attention to some of the more valuable drugs that are in use by the natives of that district, and that he himself has tested in his practice. This observer first informed us of the merits of *Goltua*, a powerful alterative, tonic, and laxative, some few months ago; and we are now advised that samples for experimental or testing purposes have been forwarded to us, to be manufactured into fluid extract. Physicians desirous of testing the merits of the drug, will be supplied with samples for clinical test.

Goltua is likely to prove a valuable drug if it possesses the properties claimed for it, of combining the therapeutic effects of berberis aquifolium and cascara sagrada. It would, in any event, be interesting to ascertain that such a claim can be verified.

The *Goltua* shrub is not known by Dr. E. M. Hubler botanically, but we have invited him to forward such herbarium material as will enable it to be determined. The leaves are the part used. Four leaves are said to be sufficient in infusion to act as a cathartic. Dr. Hubler states that he is in the habit of using, "with excellent results," as an alterative, 10–15 minims of a fluid extract which he himself makes, and physicians who desire to test the fluid extract as it has been made in this country may begin tentatively with the smaller dose.

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Editorial.

THE CONDITIONS OF PRODUCTION OF ALBUMINURIA.

The majority of physiologists now incline to the doctrine first formally enunciated by Bowman that the watery and saline parts of the urine are mainly secreted in the Malpighian capsules, while the urea and other so-called solids are separated by the epithelial cells of the convoluted tubes from the blood in the venous plexus surrounding those tubes. Lecorché, who in his treatise on Renal Diseases, published in 1875, adopted a view almost the converse of the above (that of Schwartze and Traube, who teach that the urea and salts are eliminated in the glomerules while the canaliculi separate only water), has in his latest work ("On Albuminuria and Bright's Disease") come back to Bowman's theory, which he now thinks is based on irrefragable data.

One thoroughly conversant with the anatomy and histology of the kidney might form some sort of an idea, though a poor one, of its function. He would say "this mechanism is admirably adapted to the production of an exudation. The capillary tufts in the Malpighian capsules must be subjected to a high blood pressure—the efferent vessel is of small size and the combined area of the capillaries is large—a copious serous exudation must here take place, which these tortuous tubes are designed to carry to the pelvis of the kidney; but here are various kinds of epithelium whose functions I have no means of determining." In pronouncing these words, the anatomist would have indicated the key to all the mysteries connected with the renal function. But no à *priori* speculations could ever have given this key; it must be found by patient experimentation.

It is needless to say that much has been accomplished of late years in elucidating the functions of the various parts of the secreting apparatus. The differences in the kinds of epithelium lining the capsules, Henle's loops, the collecting tubes, indicate a difference in function. It is now well known that there are certain epithelia which separate urea, urates,

and other normal ingredients of the urine, as well as indigo, carmine, and other abnormal ingredients accidentally, or intentionally for purposes of experiment, introduced into the blood. It is now known that the chief office of the glomerules is to separate water. The blood in circulation might be depleted to a dangerous point of its water, were it not for the abundant lymphatic spaces, and the tortuosity of the *tubuli contorti*—so favorable to retardation of the urinary current, and to reabsorption.

Experimenters, like Heidenhain, have arrested the elimination of water in the glomeruli of the kidneys of animals under experimentation by tying the afferent twigs; the excretion of urea, and of indigo (injected into the blood) went on in the canaliculi under the active agency of the rod-containing epithelium. Others, as Ribbert, have succeeded by ingenious experiments in collecting the urine just as it was secreted by the Malpighian tufts, and have found it watery and saline, but devoid of the characteristic solids of that secretion.

In estimating the function of the kidney, physiologists have been disposed to emphasize one of two aspects: they have either compared it to the glands (pancreas, salivary glands, etc.) which elaborate certain products from the blood, or they have regarded it as a simple mechanical filter, a dialyzing organ. It is necessary to recognize the fact that the kidney is both a dialyzing organ, subject to the conditions of dialyzing membranes, and an actively secreting organ, the latter property existing by virtue of the epithelia before mentioned. In the elaboration of the urine, doubtless the rôle of the cells predominates. It is by virtue of the epithelium lining, the Malpighian capsules, and convoluted tubes that urine has the composition which it presents, and is not a simple sero-albuminous exudation. It is this epithelium that keeps back albumen, so that in the normal state this proximate principle does not transude along with water through the capillaries of the tufts. But let this epithelium be temporarily or permanently diseased; let its vitality be impaired by any cause, and albumen appears in the urine. Augmentation of the vascular tension is not enough, nor is even a lowering of the vascular tension, though the latter condition has been oftener found associated with albuminuria than elevated tension; nor is even that condition which has been insisted on by Charcot, Posner, and Letten, sufficient, namely, diminution in the velocity of the blood current. We must add, according to Heidenhain, another element: *the alteration of the epithelium of the glomeruli.**

We shall continue the subject in another number.

* Vide, Hallopean, Pathologie Générale, p. 573.

THE THERAPEUTICS OF GYMNASTICS.

The efforts and aspirations of the highest class of modern physicians are markedly in the direction of that most beneficent of all arts, "Preventive Medicine." The sincerity of some of the work done in this direction shows that medicine as practiced by some physicians who sacrifice pecuniary interests to humanitarinism is a profession which can inspire the highest development of ethical principle and practice.

But to return to our mutton. While the question of the Therapeutics of Gymnastics is not a new one and its importance is more or less appreciated in the abstract, practically it has not had the attention in this country that its importance as a remedial agent in disease and in the prevention of disease which it merits.

It is true that massage is to some extent employed but most often by quacks or pretenders who are not educated up to the point of applying it intelligently. As for gymnastics as usually resorted to they may do more harm than good. It is only during the last few years that some reform has been made in the direction of appreciating the impropriety of subjecting all individual physiques to the same system. Physicians should themselves be competent to determine the proper exercise for development and its limits in an individual case, and no gymnasium should be without a competent medical adviser in this respect.

This method of therapeutics has had more consideration in other countries than in America, and we have pleasure in commending to the readers of the AGE, the interesting letter of Kate C. Hurd, M. D., which appears in the correspondence columns of this issue regarding the Central Gymnastic Institute of Stockholm, at which Dr. Hurd is now a student. The description given of the thoroughness of the instruction in gymnastics and the discrimination exercised in its application and its effect on Swedish physique should inspire the establishment of similar schools and methods in this country.

MURDER BY CHLOROFORM.

Under this title, and *apropos* of the recent Kniffin case in Newark, N. J., in which Kniffin was suspected of murdering his wife by chloroform, the New York Medical Record calls attention, editorially, to some important points in connection with the administration of chloroform, which are of much interest to doctors interested in medico-legal matters.

Very soon after the discovery of chloroform as an anæsthetic, and the wide publication of its wonderful powers, grave fears were entertained of its more or less extensive use by burglars and other criminals. Notwithstanding, however, this feeling of alarm, which at

the time was shared by many legislators and other leading men in Great Britain, agitated as it was by all sorts of exaggerated propositions, there has been little, if any, experience in the jurisprudence of such cases up to the present time. Scarcely a dozen of these have come before the courts, and these were either for burglary or felonious assault, but never yet, as far as we can ascertain, for murder. In no instance has it been proven that chloroform, when alleged to have been used at all for either of these crimes was to any purpose.

Dr. Snow, the eminent authority on anæsthesia, boldly expressed his belief in that direction many years ago, and more recently the exhaustive paper on the subject by the late Stephen Rogers, of New York, placed the possibility of the use of chloroform for burglarious purposes at least almost beyond the pale of argument. After examining with critical care the alleged cases in which such attempts were made, he very properly concludes that there is great liability to err on the part of courts, unless upon detailed inquiry into the circumstances and manner of giving the chloroform they be found consistent with the thoroughly well-known facts and phenomena uniformly attending the administration and action of the agent.

The same conclusions would apply with especial force to the supposed cases of murder, especially when the crime is alleged to have been committed while the victim was asleep. Concerning the latter element of this proposition, enough has already been written to place the settlement on a very well-recognized basis. The numerous observations regarding the possibility of inducing anæsthesia during sleep have quite conclusively shown that it is only with the greatest care on the part of an experienced practitioner that such can be accomplished at all, and then only in exceptionally favorable cases with particularly fortunate surroundings. Again, while this condition of things can be sometimes produced with infants and young children, as shown in many cases, it is virtually impossible in the cases of adults.

The interesting observations of Dr. J. H. Girdner, of New York, on this point, prove how easy it is to awaken suddenly and with alarm the soundest sleeper at the very commencement of the inhalation, even when the napkin containing the chlorotorm is held a considerable distance from the face. Aside from the favorable surroundings necessary for success in these cases, the element of time in the effective administration of the drug is no inconsiderable one to take into account, adding as it does a proportionate risk of detection in the act.

Considering also the comparative rarity of induced anæsthesia without struggle, noise, or vomiting by the victim, the chances of being discovered are increased in proportion. Such incidents also would be likely to alarm the criminal even more than the victim, in fear that, if not detection, actual murder might be the result.

To return to the case which forms the text of these comments, a few pertinent inquiries suggest themselves as bearing upon the theory of chloroform-murder by burglars. How could the deed be accomplished as explained by the fact that one of the victims was found dead in bed, and the other lying on the floor? Which one was chloroformed first? Is it possible to conceive that, lying side by side, one or the other would not be awakened to give an alarm, even if the drug was administered to both at once? Or, was one promptly strangled, and the other simply overcome in her struggles subsequently? With one murder staring them in the face, what would have been the incentive of the criminals to commit another against such desperate chances as a determined and desperate resistance by the remaining victim?

The autopsical revelations may make many points clearer than at present. The main one to prove is, whether or not chloroform was the lethal agent at all; but more difficult than all will be to explain how the deed was actually done, consistent with the well-recognized difficulties of chloroform administration under such circumstances. The responsibility of settling these questions must, however, rest with the jury which shall try the case.

Book Notices.

Diseases of Women and Abdominal Surgery. By Lawson Tait, F. R. C. S., Edin., LL D., M. D. Volume 1. Published by Lea Bros. & Co., Philadelphia. Pp. 547. Sixty-two illustrations. Three plates. Price, $3.00.

The views of Lawson Tait may be said to be thoroughly known through their active discussion for over ten years. The claims made by this surgeon have met with radical opposition and incredulity, but time and riper experience and antisepticism have led to a broader appreciation of the possibilities of abdominal surgery, and to day the statements made by the author will be received with more consideration than would have been deemed possible a decade ago.

In his preface, the author pays tribute to the American profession, whom he states have done much to aid him in what he has accomplished.

The plan of the book is not as elaborate as some works on similar topics by other authors, but Prof. Tait disclaims any attempt at elaboration, and states that his chief object is to offer the results of his own experience in as condensed a form as possible. It is certainly an interesting record of this distinguished operator's experiences, and as such will doubt-

less interest all surgeons, and especially those who devote themselves to gynæcological operations.

The extent to which Dr. Tait regards abdominal surgery applicable in gynæcology may be surmised by his statement that "the old-fashioned mechanical school—the teaching of the speculum, the sound, the caustic stick, and the pessary—has been practically killed, and an advanced eclecticism now prevails instead."

Messrs. Lea Bros. & Co. have displayed their usual good taste in printing and binding the volume.

A Manual of Organic Materia Medica. Being a Gulde to Materia Medica of the Vegetable and Animal Kingdoms. For the Use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Ph. M., Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth edition—with two hundred and fifty-nine illustrations. Published by Lea Bro's & Co., Philadelphia. 1890. Price $3.00.

Maisch's Organic Materia Medica needs no detailed presentation to those who are interested in Pharmacognosy. The acquirement of the knowledge this work contains, or its use for reference, materially lighten the labors of pharmacists and physicians and relieves them of the embarrassment which the lack of it often occasions in the practice of both arts. A workman in both fields must be intimately acquainted with his tools, their possibilities and defects, if he is to use them to best advantage.

The author states in his preface to the fourth edition that the principle change made is in the preface to the fourth edition, in which Bentham & Hooker's Genera Plantarum has been followed. While only a few drugs have been added to those previously described, the pages of the present edition bear evidence of the endeavor to make it conform to the present knowledge of the drugs in use embracing the results of all important new investigations.

A New Operation for the Cure of Incontinence of Urine.—R. Gersuny, Vienna (Centralblatt. f. Chirurgie, Nov. 25, 1889), devised a method for the treatment of that form of incontinence characterized by persistent dripping of urine, and due to disturbances of the function of the vesical sphincter. The operation consisted in partially separating the urethra from its attachments, leaving it well covered with its underlying structures, and twisting it in its long axis; it was then sutured again in position. The operation was performed three times upon one patient (a young female), the torsion not being sufficient in the two first attempts. The amount of torsion finally amounted in all to one and a quarter turns. The patient reports, six months afterwards, that she can retain the bladder-contents and that fully four minutes are occupied in passing a pint of urine.—*Brooklyn Medical Journal.*

Notes and News.

The Complaint of the Dissected.—

Stretched full length on dissecting board,
With eyelids in shame and modesty lowered,
Alone in death, but still proud,
Without a mass, without a dirge;
Without a friend, without *concierge*—
Even without a white shroud.

Medical students, of every odd type,
Slowly dissect, while smoking a pipe,
My body from head to waist;
And as they cut the flesh they joke,
With every puff of tobacco smoke;
Tell stories of doubtful taste.

An interne, visiting us yesterday,
For his share of my body took away
One of my pretty feet,
For the evil purpose, I heard him state,
Of making a petrified paper-weight—
A hospital ornament neat.

Ah! happy those with a coffin-lid,
In rural graveyards quiet hid,
Blest "Cities of the Dead!"
A cross for company, night and day;
No hunger, no thirst, no lodging to pay,
Eternal rest for one's head.

Beneath warm, grassy coverlid green
The latest comer sleeps well, I ween,
'Mid the brave, the good, the true;
Dreaming sweet dreams in the new home
To which all fortunate mortals come,
E'en content to be *parvenus.*

Alas! had I wedded some old millionaire,
For I once had youth and beauty rare—
A name on society's list.
But 'twas peritonitis in hospital ward,
I trusted doctors instead of the Lord,
And I never will be missed.

I am lying naked as a church wall,
Not even chemise for funeral pall;
The students cut off my tresses.
I've the air of a beefsteak, as it goes,
Without e'en a garniture of potatoes,
Or a dressing of water-cresses.

—*Cinn. Lancet and Clinic.*

Modification of O'Dwyer's Introducer for Intubation.—The instrument described below was made for me by Messrs. Mayer and Meltzer, its use has materially facilitated the operation of intubation, both to myself and others. The original instrument appeared to me to have the following drawbacks: 1. The spring claws for pushing off the tube into the larynx almost invariably failed in my hands, and, by projecting over the top, made it a difficult matter to push the tube home with the forefinger of the left hand. 2. When the tube had been oiled and placed on the pilot, if frequently slipped off just as it was being introduced into the mouth.

The modifications and advantages are as follows: 1. A small ring placed at the end of the stem on the right side. The string, having been threaded through the hole in the shoulder of the tube, is passed through the ring and

held against the handle with the forefinger of the right hand. This effectually prevents the tube from slipping off the pilot, keeps the string close against the stem, and, being on the right side, does not interfere with the manipulations of the left hand. 2. The spring claws are dispensed with altogether, and the tube can readily and with certainty be pushed off the pilot, when introduced into the larynx, with the left forefinger. This makes the instrument a much cheaper one, and more easy to clean. This is an important point if there is only one set of instruments, which may have to be used both for cases of diphtheria and and other emergencies.—W. H. C. Staveley, in *London Lancet.*

The Treatment of Snake-Poisoning.—While it is perfectly true that snake-poisoning is a fortunately rare occurrence in this part of the country, it is equally a fact that in the western portions of the United States persons suffer quite frequently from accidents of this character, and it is, therefore, of importance that some knowledge of the proper treatment of such cases should be sought after. Among the laity, particularly of the less educated classes, the survival of an animal or man who has been bitten by a snake after the administration of the simplest form of remedy is an argument of such *post hoc propter hoc* force, that the witnesses are forever willing to stake their reputations as to veracity on the efficacy of the measure or drug, and to act as missionaries in the promulgation of its valuable powers among their fellows. As a result of this, a very large number of so-called remedies are to be met in every region where poisonous snakes abound.

The well-known studies of Weir Mitchell, carried on during many years, culminating finally in the joint paper written with Reichert, reached three conclusions which are worthy of note in this connection; namely, that, as the poisons act directly upon the blood, disorganizing it, the fatality of the case must depend largely upon the quantity of the poison introduced into the blood, be the antidote what it may; that the secret of successful treatment lies in the antagonizing of the poison in the wound before the toxic agents gain entrance to the blood, and, above all, that the substance to be used for this purpose is permanganate of potash. It is unnecessary to add that stimulants, external heat, and other means dictated by common sense are to be employed.—*Medical News.*

A New Method of Opening the Brain.—At a recent meeting of the Practitioners' Society of New York, a brief report of which appears in the Medical Record, it is stated that Dr. Dana showed a specimen illustrating "A New Method of Opening the Brain." The common method of opening the brain was Virchow's. As ordinarily carried out, this left the brain so mutilated that its subsequent preservation as a whole was impossible. Besides, the cuts were longitudinal, and, for immediate inspection as well as for subsequent microscopical examination, such cuts were very bad.

The method employed by the speaker was to make a single longitudinal cut through the corpus callosum, and the roof and floor of the fifth and third ventricles, entirely separating the two hemispheres, and opening up the lateral third and fifth ventricles. The longitudinal cut is then continued through the corpora quadrigemina down to the aqueductus, and through the middle lobe of the cerebellum, laying open the fourth ventricle and aqueductus. Transverse incisions are now made in the cerebral hemispheres, beginning anteriorly and on the median surface.

These incisions are carried just to the cortex, but not through it, and they are made as closely together as was deemed necessary. The speaker described the levels used by himself. In finding the exact location of hæmorrhages, and in determining the relations of the parts, he found this method vastly more satisfactory than the older one, and he very much wished that it might be generally adopted. It was not a new method, except in the essential point of leaving the cortex uncut, and in a few minor details.

The Electrical Exhibits at the American Institute Fair.—Electro-medical apparatus is very well represented in the exhibit of the Jerome Kidder Manufacturing Company, of New York, who show a very complete line of galvanic and faradic instruments. Among other novelties may be seen their latest improved physicians' cabinet supplied with a full set of batteries and a forty-point selector, by which any number of cells can be placed in the circuit. It also contains a galvanic and faradic combination coil and a slow and fast interrupter, together with resistance coils, and a milliampèremeter for measuring the strength of the current. Besides this very complete arrangement, they show every variety of physicians' family and pocket batteries and various cautery and surgical instruments. This firm has received the highest awards in its class every year since 1872, and will no doubt be granted a medal this year.—*Electrical World*, November 23, 1889.

The American Institute Fair closed November 30, and the "Medal of Superiority" was awarded to the Jerome Kidder Manufacturing Co., 820 Broadway, New York, for their celebrated Electro-Medical Apparatus and Appliances.

The Latest Anodyne Compound.—"Can you minister to a mind diseased?" asked Blueglum, wearily. "Can you give me a nepenthe that

will drive away from my brain and heart bitter memories of a desolate past and sad forebodings of a dreary future?" And Pilmixer, pharmacist, said he hoped to die if he couldn't, and compounded him straightway a little dose of quinine, wormwood, rhubarb, castor oil, pain killer, ipecac, garlic, and cayenne pepper, mixed it up in a quassia cup with a little pine-top whisky, and told him to drink it down and see if he could remember anything, or think of anything, for a straight week.—Burdette in *Brooklyn Eagle.*

To Clear Waste Pipes.—A retired plumber thus gives a point for the gratuitous relief of householders: "Just before retiring at night, pour into the clogged pipe enough liquid soda lye to fill the 'trap' or bent part of the pipe. Be sure that no water runs in it until the next morning. During the night the lye will convert all the offal into soft soap, and the first current of water in the morning will wash it away and clear the pipe clean as new."

Therapeutic Brevities.

The Prevention of Malaria.—Sir William Moore, before the Epidemiological Society of London, read a paper on Malaria. As to its prevention, he says:

The intensity of so-called malarious diseases may be estimated by the degree of solar heat. With respect to agues in temperate climates, they are only found in humid, marshy localities, and they occur in the autumn, when changes of temperature are greatest, damp being added to cold; for damp cold has a greater power of abstracting heat than dry cold. The prevention of so-called malarious fever did not consist in stopping the formation of malaria, but in protection from sudden changes of temperature, from damp, from night exposure (especially when asleep), and in maintaining the vigor of the system by suitable diet. So-called malarious fevers are caused by sudden abstraction of heat, or chill, under the influence of cold, and more especially of damp cold. These effects of chill are more marked in hot climates, because of the antecedent exposure to great solar heat, the anæmia and skin debility resulting from heat and the disregard of suitable precautions. The individual malady will be of a febrile character in the absence of predisposed or diseased condition of any organ, the febrile paroxysm will be repeated or not according to temperament, heredity, habit, mental condition, anæmia, recurring chill, one or more, favor such repetition. So-called malarious cachexia or anæmia is the result of the operation of heat on the system.—*London Lancet.*

Ammonia in the Treatment of Influenza.—The beneficent effects of ammonia in influenza, or *la grippe*, are so marked and speedy that it almost merits the title of a specific. I came to use it by chance, so to speak, having first used it in my own case, in the hope that it might give me some relief from the feeling of oppression. Pleased with its effects, I began to prescribe it for others, and now depend upon it in the treatment of influenza. I desire to call the attention of the profession to it, in the hope that others may give it a trial, and either corroborate or contradict my statements in regard to it.

I have been using it in the following formula or modifications of it:

℞ Ammonii chloridi,
Ammonii bromidi,
Sp. ammonii arom.,
Vel sp. frumenti,
Liq. ammonii acet.,
Syrupi.

The effects of this combination have been really magical in my hands, all the disagreeable symptoms disappearing almost at once. I at first used quinine and gargles along with the ammonia, but found that I got as good results with the ammonia alone. I trust that others will give the drug a trial, and report their experience.—Lawrence F. Flick, in *Times and Register.*

Menthol in Laryngeal Phthisis.—Dr. Charles Knight, in Jour. Am. Med. Assn., Jan. 18th, publishes his views on menthol in laryngeal phthisis. His conclusions are as follows:

It would seem that we are not yet forced to adopt the discouraging opinion held by Massei, of Naples, that "we are still in want of some remedy or remedies to effect the cure of laryngeal phthisis." The beneficial effects of menthol are obvious, and in propitious cases a cure is feasible; yet the extreme claims of its warmest defenders should be accepted with some reservation. Three points suggest themselves for our consideration:

1. Spontaneous cure of a tubercular ulcer of the larynx may occur.
2. A simple erosion or ulceration may be mistaken for a tubercular ulcer.
3. The best results from local treatment of the larynx may be expected in cases of incipient or limited pulmonary disease, and in primary laryngeal tuberculosis.

Dr. Knight employs menthol in the form of spray, making a solution in fluid albolene in the proportion of a drachm or a drachm and a half to the ounce.

Prescription for Cystitis.—To render the urine aseptic in cystitis and gonorrhœa, the following is recommended in the Gazette de Gynécologie, December 1, 1889:

℞ Sodium borate, 1 part.
Syrup of raspberry, 3 parts.
Infusion of lactucarium,
Infusion of linden flowers, ää 8 parts.
M. Sig.—One tablespoonful every 2 hours.

Or:

℞ Benzoic acid, 1 to 2 parts.
Glycerin, 5 parts.
Simple elixir, 75 parts.
M. Sig.—One tablespoonful every 2 hours.

Results of Treatment of Epilepsy by Borax.—Dr. Charles D. Jones, in Boston Med. and Surg. Jour., reports ten cases of epilepsy in which he

observed the effects of the borax treatment. His results were unsatisfactory. At the end of 34 days the drug was stopped, and the patients were put upon the bromides (bromides of potassium and of sodium 10 grains each, three times a day). Dr. Jones' experience is confirmatory of that of most others who have tried the borax treatment. The editor of Strumpell's Practice of Medicine, however, commends it.

Simulo in Epilepsy.—Stan has confirmed previous observations that simulo is a useful remedy for epilepsy in cases in which bromides have failed. Gauster, after the result of a very large experience in the treatment of epilepsy by bromide of potassium, comes to the conclusion that it is the best mode of treatment we at present possess; but it must be used in very large doses (3 iv. to 3 v. a day) for a long while, and must be omitted on the appearance of any symptoms of bromidism. The loss of intellectual power, and moderate emaciation, are not contra-indications, but the patient should eat heartily; wasting diseases are a contra-indication.—*British Med. Jour.*

Nerve-stretching in Leprosy.—Dr. Beaven Rake has, in his Government report, studied the effect of nerve-stretching in leprosy. He performed a hundred operations, and came to the conclusion that the best nerve to stretch was the sciatic, for it is nearest the spinal ganglia, and commands the supply of the whole leg, and foot, and back of the thigh. The operation only seemed to be of value for the pain associated with ulceration, but often in these cases the relief was very marked.—*Lancet.*

Administration of Chloral in Infantile Convulsions,—Widerhofer, of Vienna, recommends the following as a sedative in infantile convulsions:

Hydrate of chloral, 1 drachm.
Distilled water, 3 fluidounces.
Syrup of bitter orange peel, 1 fluidounce.

A teaspoonful every two hours.—*Revue de Générale de Clinique et de Thérapeutique.*

Prescription for Asthma.—

Hydrate of chloral, 30 grains.
Iodide of sodium, 22 grains.
Simple syrup, 4 ounces.

In an attack, give a tablespoonful every hour.—*Revue de Gén. de Clinique et de Thér.*

Injection for Infantile Convulsions.—

Musk, 3 grains.
Hydrate of chloral, 10 grains.
Camphor, 15 grains.
Water, 5 ounces.

—*Rev. Gén. de Clinique et de Thér.*

Jatrophy Macrorrhiza.—A series of experiments on this drug by Drs. A. A. Doherty and J. M. C. Love, of Nogales, Ari., Dr. A. H. Noon, of Oro Blanco Pama, Ariz., Dr. P. H. Gregory, of Hermasillo, Mexico (Med. World), indicate that it is a valuable hydragogue cathartic and cholagogue.—*Medical Standard.*

Saw Palmetto in Migraine.—Dr. F. A. Evans, Tell City, Ind. (Med. Brief), states that 15 minims of saw palmetto fluid extract will abort a paroxysm of migraine.

Medical Progress.

THE PREVENTION OF CONSUMPTION.—We come now to the most important utilitarian question connected with this subject,—What can be done to lessen the ravages of this most destructive disease?

It is gratifying to be able to say that, if we accept the evidence collected in this essay much can be done; and there is a promise of the prevention of a very large proportion of the sickness and of the deaths from consumption, through the adoption of measures which are not difficult yet which require, for their most speedy and complete accomplishment, such as an amount of coöperation by all classes of people as can only be secured through the faithful labors of intelligent boards of health, or of some agency for the thorough dissemination of the truth respecting this disease and the means for its avoidance, restriction, prevention, and climatic and other treatment. It is still true as written in the Bible—"My people are destroyed for lack of knowledge."* When once the people know, fully, how and why consumption is caused, they will find and adopt rational methods of protection from that disease.

PREVENTIVE MEASURES.

1. Relative to the supposed *cause* of consumption, it would seem to be practicable to so enforce, upon the minds of the people generally, the importance of the destruction or the disinfection of all sputa from consumptives, that the present very general distribution† of these microörganisms shall be very greatly lessened.

The consumptive might carry small pieces of cloth, each just large enough to properly receive one sputum, and paper envelopes or wrappers in which the cloth may be put as soon as once used, and with its envelope burned on the first opportunity.

2. What has been said about the destruction or disinfection of the sputa of consumptives should apply also to the dejecta; because it has been shown (by Friedländer‡) that the bacilli are to be found in the urine of persons with tubercular disease of the urinary organs, and in the fæces of those who swallow sputa containing the bacilli, that is, possibly, of any consumptive.

Through better systems of ventilation, much may be done for the lessening the number of microörganisms inhaled with the dust of floors,

* Hosea, Chapter IV, verse 6.

† Dr. James E. Reeves, ex-Pres. of the Am. Public Health Association, demonstrated the presence of innumberable bacilli in a sputum on the sidewalk, near the post office in Wheeling, W. Va. They are probably to be found on the sidewalk in every city.

‡ Manual of Microscopical Technology, pp. 219, 226, 227.

carpets, etc.; especially by having the foul air exits at the floor-level, so that the general motion of the foul air shall be downwards, and not upwards into the nostrils of the inmates of the room. A more liberal supply of fresh air to all occupied apartments, especially public rooms, would lessen the danger of inhaling air which has already been breathed, and also of microörganisms, etc. So long as the specific cause of consumption is so widespread, lives may probably be saved by the use of respirators by those who sweep and dust rooms which consumptives have occupied.

3. It is important that consumptives, and persons susceptible to consumption, should especially guard against the inhalation of cold air. It enforces the importance of having such persons spend the winters in a climate warmer than that to which they have been accustomed.

4. It is important that every person suffering from one of the irritative or exudative diseases of the lungs or air-passages, should be especially protected from the inhalation of the bacillus tuberculosis.

5. Enforce the importance of supplying moisture to all air which requires to be warmed, in hospitals, houses, public buildings, and wherever the temperature of the air can be controlled.

6. Teach that it may be of very great importance to see that our food and drink, especially in winter, shall not contain an excess of chloride of sodium or other non-volatile salt liable to be exuded into the air-passages, and left there by unusual evaporation of vapor through the inhalation of cold air, which is necessarily dry, or of air which has been warmed without the addition of moisture.

7. Since we now think we know the reason why residence over low, wet soil endangers health and life from consumption, there should be no hesitation in acting in accordance with the laws laid down by Dr. Bowditch, relative to the avoidance of residence over, wet soil, and in any cellar-like place.

8. In addition to what is generally known for the prevention of small-pox, diphtheria and scarlet fever, the facts incidentally set forth in this essay teach why it is that the inhalation of cold, dry air is an important factor in the causation of those diseases, and why it is even more important in winter than in summer to guard people from them.

9. Finally, there is given herein evidence as to the causation of a large class of ordinary diseases (of the lungs and air-passages), which should lead to the prevention of a very considerable proportion of the sickness and deaths therefrom.

That there shall be a very thorough dissemination of the truth, or at least of the nearest approach to the truth that is now known, respecting these subjects which are of vital consequence to every man, woman and child, and that, through the attention to such subjects which shall result from such thorough dissemination, many valuable lives may be saved, and much suffering and sorrow may be prevented, is the earnest wish of the author of this essay. —Dr. Henry Baker in *Jnl. Amer. Med. Association.*

Boracic Acid and Alcohol in the Treatment of Acne.—The suggestion of this plan of treatment was derived from Dr. Lowenberg's report before the International Congress, at Washington, in regard to its efficacy in the treatment of boils. Dr. Lowenberg based his practice upon the following assumptions:

1. Boils are caused by an affection from without—viz., through the ducts of the cutaneous follicles.

2. The successive outbreak of furuncles on the same individual takes place by auto contagion—that is, through transportation of the cocci upon the skin.

3. Infection from one person to another is possible, and originates from the same process as No. 2.

It then occurred to me that if in a case of extensive local papillary disturbance of nutrition (carbuncle) infection from without had been distinctly proved, it might be logically inferred in the smaller papillary disturbance (boil); further, that if a middle-sized papillary disturbance of nutrition (boil) were due to infection from without, the same might be just as logically inferred for the still smaller local papillary disturbances called pimples or acne.

Arguments in support of this deduction immediately sprang up. Acne often complicates atrophic rhinitis. The discharge in atrophic rhinitis has often the most offensive character, and particles of this discharge may easily be deposited upon the skin. Again, acne often complicates dyspepsia, in which the breath is also loaded with decaying material. If follicular pharyngitis may be produced directly by the irritation of such air, why not also follicular inflammation of the skin? Acne complicates genital irregularities, and it is not impossible that irritating secretions may be carried from these parts to the face.

Another argument is the fact that the sufferer from acne vulgaris has, without exception, an oily skin. He or she is the person to whom everything in the line of dust sticks. There are people whose skin is always clean. They do not bathe more than others, yet they can go through the dirtiest places without being soiled. Such people do not have acne.

Acne is a disease of adolescence. After the beard grows, men do not have acne, and it is quite clear that the beard protects the follicles from the intrusion of foreign particles. Old people, in whom the glands are less active, do not have acne.

However, the truth or falsity of these arguments will in no degree affect the success of the remedy which is here recommended. I commenced using the boric acid solution in 1887, in the Evening Class for Working Women in the Demilt Dispensary, of New York. The class included, at that time, all varieties of disease.

During 1886 the number thus making application for treatment was 379, of which 6, or 1.6 per cent., were cases of acne. During 1887 the whole number of new cases was 525, of which 10, or 1.9 per cent., were cases of acne. During the latter part of this year the boric acid treatment commenced to be used. During 1888 the whole number of new cases was 552, and of this number 28, or 5.1 per cent., were cases of acne. The increased number of acne cases during this year was clearly due to the success of the medication, for these new cases were, as a rule, introduced by those who had already been successfully treated for the disease. At the beginning of the present year the class had

outgrown its accommodations and was divided, so that the comparison could be carried no further.

The directions for treatment were as follows: Bathe the face at night in hot water containing a few drops of ammonia; do not use soap. Rinse the face in cold water. Dry the face. Then apply the solution, sopping it on with the corner of a handkerchief, or soft, clean rag. In the morning do not wash the face, but apply the solution. Carry the solution with you, and apply it several times a day if the skin becomes moist.

In very bad cases it was my custom to apply a little ether, and remove the comedones with the extractor at the time of the visit. Within a week great improvement would be obtained.

Unlike most applications to the skin, the boric acid solution forms an elegant toilet preparation, as it deposits a delicate powder which is scarcely perceptible, and yet serves to remove the "shine" from the face. I think that men, with their covered faces, scarcely realize the necessity of women for some form of face powder, especially the woman whose face is flushed with household work. It has occurred to me that the alcohol might be the active agent in the cure of acne, but without the powder which it carries the alcohol would not be tolerated, as it leaves a glistening surface on the skin.

The solution which I use consists of half an ounce of boric acid in eight ounces of alcohol, to which perfume may be added, if desired.—Sarah E. Post, M. D., in *Medical News*.

THE TREATMENT OF ERYSIPELAS.—Although the cause of erysipelas and its methods of diffusion are as well known as any pathological process with which the human body is afflicted, its treatment, judging from the widely diverse methods vaunted as specifics in the literature of the day, has not yet been satisfactorily formulated. Tillman (Allgeminen Chirurgie) places the mortality of this affection at about 11 per cent. Though the statistics of reported cases may justify this estimate, it is unquestionably far too high.

The only treatment upon which surgeons are agreed as being invariably successful is the careful sterilization of all wounds or abrasions. The disease once fairly inaugurated, a choice must be made from the many and different methods of treatment which have each received the highest scientific and practical endorsement.

Hueter advocates the hypodermic injections of a 3 per cent. carbolic acid solution along the borders of the erysipelatous area and into the tissues which are about to be involved in the spread of the disease. Three or four syringefuls of the solution are used at a time, the treatment being repeated if necessary.

Inunctions of turpentine have been successful, as have likewise painting with strong tincture of iodine repeated six to eight times daily, painting with nitrate of silver solution, 4 to 10 per cent., applications of compresses wrung out in 5 per cent. carbolic solution, and applications of 80 per cent. resorcin ointment. Kühnast's method has been particularly successful. Into the skin bordering the erysipelatous area he makes many incisions, involving both the diseased and the healthy surfaces; these incisions are crossed by others running at right angles to them. This scarified surface is then washed thoroughly with a 5 per cent. solution of carbolic acid, and dressed with compresses soaked in a solution of half this strength and kept constantly moist. In the more superficial varieties of the disease these incisions need be but little deeper than those made in an ordinary vaccination. Riedel and Lauenstein improved upon Kühnast's method by placing this line of incisions entirely beyond the diseased area, in the still healthy skin.

Wölfler (Wr. Klin. Wochenschrift, 23-25, 1889) reports twenty-four cases of erysipelas, in twenty-one of which the disease was limited to a definite area by the circular compression exercised by strips of adhesive plaster. The results were as striking in erysipelas of the head and face as was the case when the extremities were involved. Wölfler does not commend this method in the more serious cases which run to a fatal termination from acute sepsis.

Koch caused in ten cases the disappearance of fever and abatement of local symptoms by two or three paintings of the affected area by an iodoform-creolin ointment. Over this application gutta percha tissue should be placed and the dressing completed by a firm roller bandage. Local applications of ichthyol have received the highest endorsement. The erysipelatous surface should be washed with soap and warm water and liberally coated with an ointment made of equal parts of ichthyol and lanolin or lard. Over this is placed a gauze dressing and a moderately firm bandage. In twenty-four hours the application should be repeated. This treatment has been most satisfactory to those who have had experience with it. Ichthyol bids fair to be replaced by thiol in all its applications, since this latter drug is possessed of the therapeutic properties of its prototype, and is without its obnoxious taste and odor.

The fact that erysipelas is frequently a self-limited disease and that it may spontaneously disappear, together with its concomitant symptoms, as early as the third or fourth day, explains, in a measure, the confidence with which certain remedies are vaunted as specifics. It unfortunately remains true, however, that there are certain forms which involve the deeper tissues in an inflammation so virulent, and which are so rapid and irresistible in their onward progress, that the best therapeutics of the present antiseptic age are as powerless for help or cure as the hot iron of an earlier day.—*University Med. Magazine.*

DIASTASIC FOOD AND ITS USES IN DIABETES, RHEUMATISM, GOUT, AND PHTHISIS.—Having made several complete chemical tests of the diastasic food, and having found that it completely removes every trace of starch from any food, I very quickly put it to the further test of assisting the digestion of starch in the stomachs of invalids. In the first place, having been thoroughly disgusted with the number of diabetic foods that are on the market, I determined to try the efficacy of the diastasic food. I have now tried it in three cases, and have found the sugar to disappear in each case rapidly and totally: In one case in particular, occurring in a lady of thirty-four years, after

she had been cured and the sugar had ceased to appear in her urine she was subjected to extreme grief. I examined her urine again, and, of course, was extremely anxious, but, notwithstanding the terrible strain upon her nervous system, there was no reappearance of the sugar. The three cases were all in persons comparatively young—that is, it the prime of life—and in each case the history pointed to mental anxiety and worry as the ætiological factor. The only medication used with the diastasic food was hypophosphites of lime and soda with phosphoric acid; but the disappearance of the sugar in the urine was manifestly due to the food, because in each case it disappeared rapidly under its use, and only slowly before while under the hypophosphites alone. I can not too strongly recommend its use in diabetes, as theoretically and practically it meets every requirement in combating this disease, because not alone can you permit your patient to use amylaceous food, but he or she will almost certainly gain in weight and strength during your treatment. The effect upon the respiration will be at once apparent, as you have the hydrocarbons pushed rapidly to elimination by the lungs during the use of this artificial diastase, and, no matter what may be the differences of opinion as to the ultimate uses of carbohydrates or hydrocarbons in the human economy, all will testify to the good effects produced by the rapid disappearance of carbonic-acid gas between the right side of the heart and the lungs.

Having demonstrated that artificial diastase will serve the same purpose to starchy food as pepsin does to nitrogenous food, it was but a step on my part to push the experimentation still further and administer the food in cases of rheumatism. Modern opinion, I think, will sustain the belief that both gout and rheumatism are largely due to a deficiency of power to take up and push to their ultimate destiny the amylaceous elements of our food. I put the diastasic food to the test and found that it worked in a very favorable manner, but the proof of its efficacy takes a much longer time than in diabetes, as if there were other elements that make the disease complex instead of simple; and no doubt this may be a correct solution, because there are certainly more causes than one in producing lithæmia. Let that be as it may, the food is certainly worthy of praise for its power in a certain number of cases of rheumatism or gout.

In conjunction with these experimental researches, I also administered the diastasic food to several consumptives. Anything that will induce superalimentation in phthisical processes is the panacea for this disease, get it how we may, and herein the food proved itself a powerful auxiliary. At one blow you deliver your patient from the gaseous eructations after eating, you in every way ameliorate the conditions of the bowels, and you supply the carbonic acid gas which, by its rapid elimination, promotes lung power and elasticity of the chest walls. In the summer diarrhœa of infants it is, on the foregoing grounds, very efficacious. It not alone contains within itself the elements of its own digestion, but also rapidly gets rid of any undigested starch that may be in the stomach of the infant when the physician is first called. This is but a short *résumé* of how very materially this food has helped me in a number of cases, and how it bids fair to assist us greatly in some diseases which are more errors of nutrition than diseases *per se*.—Dr. Robert Ormsby in *N. Y. Med. Jour.*, Jan. 25th, 1890.

The Balsam Cure of Phthisis.—The ingenuity of mind and fertility of resource displayed in discovering new methods of treating phthisis, during the past decade, is something remarkable, and it seems as if it must eventually prove successful. At any rate, no failures in the past at all deter enthusiastic workers in this line. It hardly seems possible that another method of treatment, involving a new therapeutic principle, should be devised, yet such is to a large extent the case with the Peru balsam cure as suggested by Dr. Landerer, and more perfectly carried out by Dr. Max Opitz (Mün. méd. Wochenschrift, Nov. 19 and 26, '89). Landerer based his views of the value of Peru balsam in tuberculosis upon its success in the treatment of surgical forms of this disease. In administering it internally, however, he did so because he thought that the balsam was carried by the blood to the tuberculous areas and there excited an inflammatory action which circumscribed the tubercle, and led finally to its drying up and healing as a cicatrix. The reason why tuberculous deposits do not, as a rule, heal, is because they are not sufficiently vascular, connective-tissue proliferation does not take place, and the ulcerated and disintegrated tissue fails to become encapsuled. The balsam of Peru is thrown into the blood for the purpose of starting up a peripheral hyperæmia and promoting the formation of a capsule. The treatment is not antiseptic, but phlogistic. This theory was tested upon rabbits inoculated with tubercle. He injected into their veins one per-cent. emulsions of Peru balsam, and found that they did cause encapsulation and shrinking of the pulmonary tuberculous nodules. He also tried the treatment upon four men, into whose veins he injected emulsion of Peru balsam of the strength of 1 to 400. Two of these cases, in the first stage of phthisis, were cured; two other patients, in an advanced stage of phthisis, were improved.

Dr. Opitz modified the treatment in this way. He prepared emulsions of Peru balsam of the strength of 1 to 5, viz.:

> Powdered gum arabic, 1 gramme.
> Water, 1 gramme.
> Pure Peru balsam, 2 grammes.
> Physiological salt solution (0.75 per cent.), enough to make 10 grammes.

This mixture was neutralized with bicarbonate of soda and sterilized by heat at a temperature of 110° C. The preparation, as finally completed, has a white, milky appearance, and shows under the microscope the particles of Peru balsam of about the size of red blood-cells or smaller.

This emulsion is given hypodermically, in the neighborhood of the first or second intercostal space, anteriorly, and the injection is made, with all antiseptic precautions, twice weekly. It is rather painful, but if care is taken no abscess results. The preliminary use of cocaine or ether spray is not considered necessary.

Dr. Opitz divided the cases which he has

treated by the balsam emulsions into three groups, corresponding in general with the first, second, and third stages of phthisis. Three patients in the first group were all, at the end of about three months, apparently cured. Those in the remaining groups did not show such marked benefit, though good results followed.—*Medical Record.*

TREATMENT OF CHLOROSIS BY RECTAL INJECTION OF DEFIBRINATED BLOOD.—Chlorosis is one of the most difficult forms of disease to treat; and although all doctors know that iron is, so to speak, the heroic remedy for use in such cases, everyone of them also knows that a large number of such patients have great difficulty in tolerating the use of iron, either on account of an especial susceptibility of their organism, or else on account of the irritating action it manifests too frequently on the stomach, or the gastric disorders it gives rise to. As a result, it has for a long time been the endeavor of physicians to replace iron by something better in the treatment of anæmia and chlorosis. For it is not only the action of the drug on the stomach, but also the fact that it has a congesting action on all the internal organs; and it has been justly accused of causing hæmorrhage in lungs that are already predisposed to it. Bunge said that iron is more readily assimilated in combination with an organic substance which takes the place of an acid, and it seems only natural that blood should be thought of, as it contains iron in the form of an organic compound. In its natural state it has been found repugnant to patients and difficult to take, and various preparations of powders and dried extracts have been used; but Dr. Teissier, of Lyons, physician to Hotel Dieu Hospital has found a method that seems to give more success. He simply makes use of the power of absorption belonging to the large intestine, and administers blood to chlorotic patients by enemata.

The process followed is simple: Take some bullock's blood and beat to defibrinate it, and then put in a pint jar—which must be placed in a water bath until its temperature reaches 34° to 35° centigrade. Then inject one hundred and twenty-five grammes (four ounces) by the rectal syringe, and try and have it retained as long as possible when injected. Give two such enemata per day, continuing for a week, then stop a week for rest; and so on for one to two months. As a rule, it is well tolerated; but if any colic occurs, nothing is more easy than to put a few drops of laudanum in the injection. Dr. Teissier presented twelve cases in which considerable improvement took place.

From a scientific point of view the action was shown: 1. By a notable augmentation of the elimination of phosphoric acid and urea. 2. By an elevation of the hæmochromometic degree of the blood. 3. By an increase of the number of red globules in the blood. And finally by a considerable increase in bodily weight. The action was also shown by an increase in strength and a fall of the temperature, while the mucous membranes were rapidly colored to the normal. M. Teissier considers that this method gives back to the blood the essential elements it has lost—that is, iron, oxygen, and salts of potassium and chlorides. Certainly chlorosis and anæmia have not as their sole cause a deficiency of iron in the blood; the other elements, by decreasing in quantity, no doubt give rise to anæmia, so that to give blood is theoretically the best way to cure chlorosis, and the present therapeutical experiment is worthy of the attention of practicing physicians.—*Times and Register.*

DACOSTA ON THE TREATMENT OF INFLUENZA.—In a clinical lecture published in the Medical News, Jan. 18th, J. M. DaCosta, M. D., LL. D., says regarding the treatment of influenza:

The treatment must, of course, be the ordinary treatment of catarrhal affections. For the relaxed and irritated throat I have found nothing so serviceable as a gargle of salicylate of sodium, glycerin, and water. For the nasal catarrh, which at times is very unpleasant, I have found that a two per cent. solution of cocaine does the most good. The bronchial catarrh should be treated as any other bronchial catarrh, according to the exact seat and the number of râles. A good deal of the paroxysmal cough is laryngeal, and you will find that small doses of opium at night, or bromide and opium, or what I have employed in a number of cases, broken doses of Dover's powder, will give good results. One-fourth of a grain of codeine, repeated according to the circumstances of the case, is often useful; it allays the cough, induces sleep, and does not cause much sweating. Let me say here, that while perhaps the routine practice of using diaphoretics in these cases is useful, yet such drugs must be used with judgment. In some cases there is a great tendency to sweating, and you do not want to increase it, as it rather adds to the debility. The diaphoretic must be adapted to the individual case, not employed too actively, and not at all where sweating is a prominent symptom.

The debility must be borne in mind, and it is good practice to give sulphate of cinchonidine or quinine, ten or twelve grains daily. Nourishment should be kept up, and the action of the bowels looked after. The patient should not be overpurged, for, in some instances, diarrhœa is associated with the malady.

For the headache and the pain in the bones I have found two remedies of especial advantage. One is antipyrin in five-grain doses, with a grain or two of quinine to prevent depression, repeated every two or three hours until the headache is relieved; the other is phenacetin in five-grain doses. In one instance where these two drugs failed to relieve the headache I found gelsemium to answer.

The general strength and the circulation must be looked after, and especially during convalescence the patient must receive nutritious food, alcohol, small doses of strychnine, and, later, iron.

I shall not speak of the treatment of the complication pneumonia, but let me point out, in concluding these remarks, that you should keep your patients for a long time on tonics which may prevent relapse, and, indeed, it may be a question whether it would not be advisable when the disease makes its appearance in a household to place the whole family on the use of tonics, such as cinchonidine or qui-

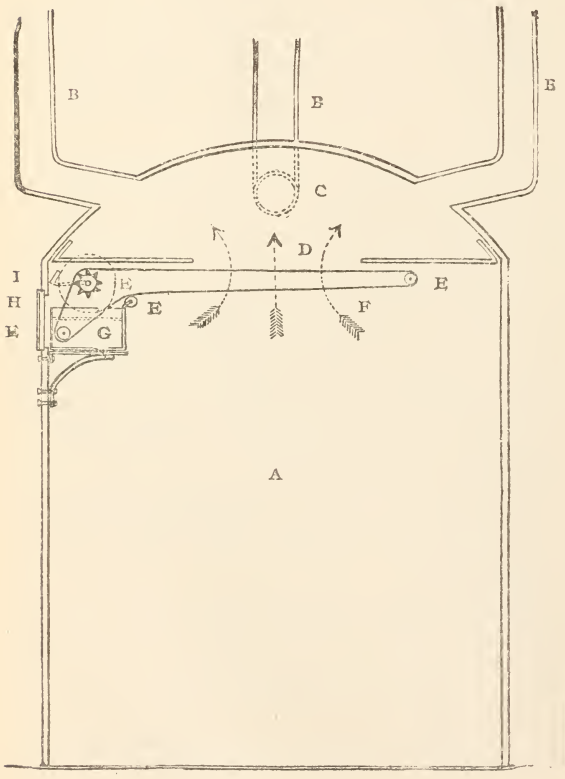
nine, as a preventive. My experience is that while this will not ward off the disease, it renders the attack less severe.

AN APPARATUS FOR THE CHEMICAL AND MECHANICAL CLEANSING OF AIR IN THE CHAMBER OF A HOT-AIR FURNACE.—Owing to the fact that the manufacturers of hot-air furnaces have signally failed to furnish the market with that which will not permit the products of combustion from escaping through the joints of the drums or the fire-box into the hot-air chamber of the apparatus and from there into the rooms of the building, rendering the atmosphere of the compartments deleterious to the health of the occupants, I propose to convert some of the irritating and noxious gases into the salts of calcium sulphite, calcium sulphate and calcium carbonate and into water, and also to remove much of the dust from the air before it is admitted into the hot-air flues.

The chemical reaction that takes place when sulphurous acid gas and carbon dioxide, in the volumes usually found in the hot-air coming from hot-air furnaces, is brought in contact with calcium hydrate (lime-water) is, as shown by the following formula:

$$3Ca[HO]_2+2SO_2+CO_2+4O=CaSO_3+CaSO_4+CaCO+3H_2O.$$

To accomplish this reaction the gases must be brought in contact with the calcium hydrate, and to this end the apparatus about to be described has been devised.



"A" represents the hot-air chamber into which the non-hygienic gases already referred to escape from either the fire-box or the drums of the furnace.

"B" shows the hot air flues through which the heated air is furnished to the rooms of a building.

"C" indicates an air-chamber divided off from the regular hot-air chamber of the furnace, excepting a communicating aperture through the center.

"D" is the aperture connecting the two hot-air chambers.

"E" represents the ends of four rollers that extend from one side to the other of the chamber "A."

"F" pictures the edge of a piece of cheese-cloth stretched over the four rollers. This cloth is pierced with holes. They are so arranged that those on the upper stretch alternate with those through the cloth on the lower stretch.

"G" shows the end of a tank. This is supported by a bracket fastened on the wall of the furnace.

"H" shows a door situated immediately back of tank "G."

"I" represents either a crank extending from the upper left hand roller, [this particular roller is provided with short teeth or coggs], or a shaft extending through to the outside of furnace wall.

The working of the apparatus when adjusted as shown by the accompanying drawing, and with tank "G" filled with lime-water will be as follows:

By turning the crank "G" occasionally by hand, or if a shaft it will be kept in constant motion by a weight attached to a series of cogs. This will keep the cheese-cloth, "F," continually wetted with calcium hydrate, the rollers being, as shown on the plate, so arranged as to dip the cheese-cloth into the tank of lime-water. These rollers stretch the dampened cloth across the aperture connecting the upper and lower air chambers, "A" and "C." From the fact that the holes in the cheese-cloth, through which the air passes from the lower to the upper chambers, alternate, the air in ascending either impinges on the lower or upper stretch of the cloth wetted with calcium hydrate, breaking up the lime-water and the sulphurous gases and the carbon dioxide. The damp cloth also retains much of the dust and many of the micro-organisms out of the air. The air ascending into the upper chamber is purified and cleansed.—Samuel G Dixon, M. D., Professor of Hygiene, University of Pennsylvania, in *University Medical Magazine*, Jan., 1890.

DELIRIUM AND INSOMNIA.—USE OF PARALDEHYDE IN.—Certainly in delirium the action of paraldehyde is excellent, and I am told that in acute alcoholism it is safe and sure. Morphine, chloral, and potassium bromide all have great limitations, especially when one needs them most; and for those cases, where there is no pain, paraldehyde is harmless and most useful. I generally gave for an adult 3 ss in an ounce of aq menthæ piperitæ, to be taken at 8 or 9 P M. and again at 12, and at 3 A. M. if needful. The second dose was hardly ever required in a series of cases under my care, the third never.—E. Mansel Sympson, M. B., Lincoln, *Practitioner*.

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Original Articles.

A PHYSIOLOGICAL STUDY OF CHOLAGOGUES—TREATMENT OF GALL STONES.

BY PROFESSOR GERMAIN SEE.†

No one now believes that we can, by any internal remedies, promote the solution of biliary calculi. The question of biliary lithontriptics seems to have been relegated to the realm of past delusions. Physiological chemistry is no longer content with the laboratory processes of the old chemists, who pretended that because cholesterine dissolves in ether and turpentine, these substances can have a solvent action on biliary calculi in the gall bladder. The subject of the treatment of gall stones seems to-day to have two sides—the one rational, the other empirical. If the object of treatment is no longer to dissolve existing calculi, we seek at least to favor their expulsion and to prevent the formation of new calculi. By this are bounded the therapeutic indications which are admitted to-day. On the one hand, empiricism has originated treatments of which the good results are recognized. Naturally the attempt has been made to explain their action, and, as often happens, the physiological explanation which has been given has not been always conformable to the results of experimentation, so that we are still largely in the dark on these matters.

By what means may we favor the migration of calculi? *A priori*, it would seem that the best way would be to augment the biliary secretion, to render it more fluid, and thus sweep out of the choledochus duct the calculi of small dimensions whose agglomeration constitutes biliary gravel. This means is represented by the class of cholagogues.

The study of the action of medicines on the secretion of the liver has always attracted the attention of physiologists by its practical interest. The names of Röhrig, Rutherford, Vignal, Prevost and Binet, are associated with the first important experiments. These writers studied the biliary secretion on starved dogs whose common bile duct had been tied, and furnished above the ligature with a cannula by which the bile flowed outside into a suitable receptacle. Medicines were injected into the duodenum or given by mouth, and note was taken of the quantity of bile secreted. They arrived at this conclusion: That certain medicines stimulate the liver and augment the quantity of bile, although the qualities of this liquid may not be modified; while other medicaments fluidify the bile, rendering it more serous and more abundant. Lastly, certain substances only stimulate the movements of the intestine. These latter do not generally much enhance the secretion of bile. Most of the resinous purgatives, if not all, and the saline purgatives, like sulphate of sodium, have been represented by these writers as possessing a cholagogue action more or less considerable. The number of these medicaments cannot fail to increase; it is said, however, that their benefits are not altogether due to their cholagogue properties, for we shall have occasion to observe that, among the medicines whose utility has long been recognized in the treatment of biliary lithiasis, there are some that are very poor cholagogues. As their action is not a matter of doubt, the difficulty of the problem resides in the mechanism of this action.

What are the true cholagogues? Prevost and Binet divide into four groups the substances which, when injected under the skin or introduced into the stomach, act upon the biliary secretion.

First Group: *Substances which increase the secretion of bile and of the biliary salts.*—Bile is the most powerful of cholagogues; under the form of extract, or in a liquid state just as when voided, it increases notably the biliary secretion. The bile of the ox, sheep, hog, and dog, are about equivalent in their action.

Urea produces gastro-intestinal disturbances and acts as a cholagogue. Oil of turpentine and its derivatives, terpine and terpinol, chlorate of potash, benzoate and salicylate of soda, salol, podophyllin, euonymin, and muscarine, all likewise act on the biliary secretion.

Second Group: *Substances which produce but a slight augmentation, or doubtful or inconstant augmentation, of the bile.*—Bicarbonate of soda, Glauber's salt, chloride of sodium, Carlsbad salt, propylamin, analgesin, aloes, rhubarb, hydrastis Canadensis, ipecac, boldo.

The Third Group comprehends: *Substances which diminish the biliary secretion*—Potash, calomel, iron, copper, atropine, strychnine in large doses.

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FOURTH GROUP: *Substances without action on the biliary secretion.*—Phosphate of soda, bromide of potassium, chloride of lithium, arseniate of soda, corrosive sublimate, alcohol, ether, glycerin, quinine, caffeine, pilocarpine, kairin, senna, columbo.

Bile eliminates the following substances; turpentine, terpinol, terpine, salicylate of soda, salol, bromide and iodide of potassium, arsenic, traces of iron, of lead and mercury, caffeine, fuchsin, cochineal, bile.

On the other hand, analgesin, kairin, benzoic acid, quinine, strychnine, copper, lithium, urea, are not eliminated by the bile.

Lastly, there is no relation between the secretory excitation produced by a substance, and its elimination by the bile; and, moreover, the elimination of substances by the bile is infinitely more feeble than the elimination of substances by the urine.

SPECIAL STUDY OF CHOLAGOGUES.

OLIVE OIL.

Olive oil is one of the remedies which has been much vaunted the past few years for biliary lithiasis. It was first prescribed for this affection in New Orleans, being employed empirically. Feillée, of Angers, published an article on the subject. He gave from three to six ounces, followed the next morning by one or two ounces of castor oil. The American physicians are in the habit of giving much more—six ounces at one dose, followed in half an hour by as much more; then the patient lies down for three hours on his right side. This treatment, according to published accounts, has always been followed by disappearance of the hepatic colic, then by the expulsion of a certain number of gall stones. If it is true that the pains are alleviated, observers have certainly been mistaken as to the nature of the masses expelled, which are not always calculi. Dr. Touatre, of New Orleans, pretended that the oil penetrates directly the biliary passages and dissolves portions of the calculi, facilitating the expulsion of what remains. Experimentation soon upset this hypothesis. The clinical result of the sedation of the symptoms, of the diminution and disappearance of the pains and jaundice, was none the less noted by Bucquoi, Hagem, Chauffard. Two out of the four papatients subjected to treatment rendered in their stools ovoid bodies, cut with facettes, rather soft, of grayish-white or greenish color, and soluble in ether and chloroform. Villejean, who made an analysis of these bodies, found that they were nothing but concretions of fatty acids due to the breaking up of a certain quantity of olive oil which had escaped digestion. Only one patient, that of Bucquoi, had passed at the same time biliary calculi and concretions of fatty acid. Hence, according to these first experiments, olive oil in large quantities determines only exceptionally the expulsion of gall stones.

How is the sedation of the symptoms brought about. Here experimentation remains dumb, and we cannot admit the explanation of the American doctor, since Chauffard in his numerous experiments made to ascertain the *modus operandi* of olive oil in large doses, never found the least trace of oil in the bile ducts or gall bladder of animals in which he had injected by the œsophageal sound great quantities of sweet oil; the éosine by which the oil was colored only penetrated the bile by the phenomena of general absorption. Experiments made on the cadaver were not more successful. The experimentor injected olive oil into the duodenum tied between two ligatures, and never in one instance noted the ascension of oil into the bile ducts.

The experiments of Chauffard and Dupré had only for their object the control of the assertion of the New Orleans physician relative to the course taken by the olive oil in the digestive passages.

To determine whether olive oil has cholagogue properties or not, Rosenberg made experiments on dogs when fasting, and when fed on their usual diet. It was found that only when the animals were fed on their customary food, was there a marked increase of the biliary secretion, as determined by the flow from the artificial fistula. The oil not only caused the production of more bile, but the bile which flowed was more dilute than ordinarily. To this property is undoubtedly due the calmative and even curative action of olive oil in hepatic colic and in biliary lithiasis. It is clear that this augmentation of quantity and fluidity of the bile has for its effect to thin out a liquid too thick to flow easily, to dissociate—so to speak—the abnormal solid elements which it contains, and to permit their elimination, whenever these solid elements attain that reduction of volume which enables them to pass through the narrow ductus choledochus.

There is still another way by which olive oil may facilitate the elimination of calculi and the fluidity of the bile. Often, in fact, the cholesterine is precipitated because it does not find a sufficient quantity of saponified fatty bodies, stearate and oleate of soda, to dissolve it. This is what happens when the fatty acids are lacking by reason of scantiness in the alimentary supply of fats. By giving large quantities of olive oil in such conditions, we restore to the digestive operations the fatty elements which are wanting; any excess of fats ingested is eliminated in the stools. The therapeutic action of olive oil may then be explained in two ways—by its very energetic cholagogue effects, and by the ingested oil furnishing to the bile dur-

ing digestion the elements of the alkaline soaps needed to promote the solution of cholesterine.

In my own practice I have had remarkable results in five out of a total of ten cases: Immediate diminution of the pains and almost immediate expulsion of numerous calculi, as well as of masses of clots of condensed fatty acids. Recovery was complete,

OX-GALL.

Among the medicines to which has long been attributed a useful action in diseases of the liver, is *bile* given in the form of ox-gall. It was anciently prescribed in diseases of the liver whose bile was believed to be lacking or scanty; the demonstration of the cholagogue action of bile is of quite modern date. Schiff, Rosenkranz, Prevost, and Binet, each have noticed the augmentation of the biliary secretion after the introduction of bile into the intestine, or biliary salts into the circulation. They go so far as to say that there is no more powerful cholagogue known. Rosenberg operated on dogs with biliary fistula; he compelled the dogs to ingest the bile which had flowed through the fistula, giving it either just as it was voided, or enveloped in capsules. In every instance there was augmentation in the biliary secretion. Under the influence of the absorbed bile, the biliary secretion thickens not merely by diminution of the watery part, but by reason of augmentation of the fixed matters. Schiff, who had been already struck by this result, supposed that the bile is absorbed by the intestine and secreted anew by the liver; hence the increase of solid materials independently of the quantity of water.

It need hardly be said, however, that there is as yet no very satisfactory explanation why ox-gall, unlike other cholagogues, produces an augmentation in the spissitude of bile while, at the same time, the total quantity secreted is increased in a certain proportion.

Practically, ox-gall has been pretty much abandoned as a medicine, on account of its irritant action on the stomach. At the most, it would seem to be indicated in cases of obstruction of the choledochus, where it may make up, in some measure, for the absence of bile in the intestine.

Lastly, Rosenberg's experiments, though showing the cholagogue properties of bile, also indicate its disadvantages, as the fluidifying action on the secretion is not obtained. So the ox-gall has hardly any application to the treatment of bilious colic.

THE SALTS OF MERCURY.

Calomel long passed for an excellent cholagogue, and as such had a prominent place in the therapeutics of diseases of the liver. This became seriously shaken when physiologists undertook by experiments on animals to test this property of calomel. Thudicum, Scott, Bennett, operated on animals with biliary fistula, and noticed no modification in the biliary secretion under the influence of calomel. Rutherford, in his turn, demonstrated that calomel stimulates the intestinal secretion without exciting the secretion of the liver, while corrosive sublimate is a very energetic hepatic stimulant without having any very marked excitant action on the intestine.

How are we to explain the contradiction between these results, and the general opinion based on clinical results? Many physicians have affirmed that calomel is a cholagogue because that under its influence the stools which previously were clay-colored, regained a greenish-yellow color. Now the chemical analyses of Simon, Golding Bird, and Michaud, have shown that this coloration is due to the presence of bile pigment in the stools. From a chemical point of view, it cannot be denied that calomel possesses the quality of augmenting the biliary secretion; it remains to find in what conditions and by what mechanism? Perhaps it may be that a part of the calomel is transformed into corrosive sublimate, which is an undoubted cholagogue; or we may admit, with Bence Jones and Fraser, that calomel excites the gastro-intestinal mucosa and produces an augmentation of the biliary secretion by reflex action. To sum up, calomel alone produces doubtful cholagogue effects, but it is probable that by breaking up in the intestine, its purgative effects are accompanied by a slight augmentation of the biliary secretion.

SALICYLATE OF SODA.

The experiments of Lewaschew, Rosenberg, and others, have shown that salicylate of soda is a powerful cholagogue. Lewaschew gave this salt to dogs in gelatine capsules; in the dose of one drachm there was at first an abundant flow of liquid saliva; then the bile, which was thick, became fluid and abundant. This diminution in the consistency of the bile, due to the diminution of the solid parts and augmentation of the water, goes on very rapidly, and lasts a long time after having attained its maximum. Twenty four hours after the employment of the salicylate, the proportion of solid elements reached only two per cent., while in the ordinary conditions in other animals it does not fall below six per cent. In the period of greatest dilution of the bile, the proportion of water in this liquid rises to double what it was before the experiment. In the dose of half a drachm, the salicylate produces the same effect; the secretion of the bile augments rapidly, and it becomes very clear, but the effect is a little less durable. Lewaschew found that when the salicylate was given largely diluted in water the effect was the same, only somewhat more rapid. As com-

pared with the alkaline mineral waters, the salicylate of soda has been found to have a much superior cholagogue power.

To sum up, we may affirm that salicylate of soda, even in moderate doses, acts powerfully on the biliary secretion, and holds a first place in the therapeutics of diseases of the liver where there is an indication to augment the biliary secretion, and at the same time to render it more fluid. This remedy, however, cannot have its complete action unless we associate with it mild purgatives, which, in stimulating the peristaltic action of the intestine, prevents the complete reabsorption of the bile, already altered, which has been secreted. Clinical experience, moreover, has long shown the advantages which can be obtained by associating purgatives with medicaments which simply stimulate the secretory functions of the liver. Afterward, when the biliary concretions are evacuated, it is sufficient to have recourse to the salicylate alone, which augments the watery part of the circulating bile.

ACTION OF ALKALIES ON THE BILIARY SECRETION.

It has long been recognized that alkalies exercise a favorable influence in all diseases accompanied by a disturbance in the biliary secretion, or in the elimination of bile. Under a treatment by the alkaline mineral waters at the Spas, you will generally, about the eighth or ninth day, or later, witness veritable crises of hepatic colic. Quite often, also, there will be a bilious flux which is followed by amelioration in the local and general condition; the engorgement of the liver disappears; the jaundiced hue, the dyspeptic troubles, the constipation, all vanish; the patient feels better every way. A new attack may supervene at the end of several months, followed by an amelioration which is often persistent.

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The alkaline waters (Vichy, Vals, etc.) stimulate the nutritive processes, regulate the exchanges, and cause the waste products of denutrition to arrive at their term; their alkalinity also has a special rôle. Experiments with regard to their action on the liver are somewhat contradictory; it would seem, however, true that the function of the liver is not energized, and that the secretion of bile is not augmented. We must, then, find some other explanation of their efficacy. One of the conditions of the precipitation of cholesterine is the lack of alkalinity of the humors. It is necessary also that the potash and soda shall be in sufficient quantity so that the biliary acids may form soluble salts. The acidity of the digestive tube, the excessive production of acids in the economy, the fact, moreover, that these acids cannot be burned by reason of a vice of nutrition, are all important conditions of the precipitation of cholesterine. In opposing all these defective conditions, which are summed up in a diminution of the alkalescence of the humors, the alkaline mineral waters claim a foremost place. The digestive functions are improved, the hyperacidity of the digestive tube disappears, so that the bile finds the normal conditions of its alkalinity. The augmentation of the alkalinity of the blood may contribute to the augmentation of the activity of the exchanges, which facilitates the transformation of cholesterine. Here you have a sufficient number of conditions to account for the advantages which may be derived from alkalies in the treatment of biliary lithiasis.

DURANDE'S REMEDY.

One of the therapeutic delusions of former days was the pretension of being able chemically to dissolve gall stones. Of all the lithontriptics, the remedy of Durande seems to be the one that has longest kept favor. This so-called specific was invented at the end of the last century, and consists of ten parts of spirits of turpentine to fifteen of ether. It was not long before physicians found that too much was claimed for this remedy, but as it continued to be prescribed, we must believe that patients derived a certain benefit from it, probably in the relief from pain which the ether gave. At the same time, its action continued to be very imperfectly understood till the day when its cholagogue properties were ascertained. Lewaschew experimented with both ether and turpentine, and proved that they possess such properties; the mixture of the two substances under the form of Durande's remedy gave him positive results. These experiments were repeated by other physiologists; Prevost and Binet found that essence of turpentine augments and clears up the biliary secretion, while ether gives no result, or even provokes retardation of the biliary flow. Paschkis, on the contrary, obtained no cholagogue action with either of these substances. Lastly, Rosenberg has quite recently subjected the question to the control of experiment. He administered to dogs, capsules containing from one to two grammes of the mixture, and noted an increase in the quantity of the bile, of the water, and of the solid matters, and a diminution of the consistence of the bile. But if we refer to the figures which represent the quantity of bile secreted at the same periods during fasting, it will be easy to see that after the ingestion of Durande's remedy the quantity of bile secreted is not larger than that which is rendered by the animal fasting This augmentation of the biliary secretion is, then, physiological, since it is produced without the intervention of any remedy, and without the influence of alimenta-

tion. At the most, we may admit a slight domination in the consistency of the bile.

The essence of turpentine, on the contrary, possesses in large doses a very manifest cholagogue action, so that we may augment, without doubt, the therapeutic effects of Durande's remedy in adding more turpentine to the mixture. However this may be, the properties of the remedy in question are much inferior to those of salicylate of soda as a means of exciting the biliary secretion. Bile also is a very sure cholagogue, but, contrarily to all the other substances endowed with a like physiological action, it increases the spissitude of the bile secreted, while the sodium salicylate dilutes that fluid.

But thus far the cholagogue which possesses the most energetic action, and the most durable, is olive oil employed in large doses. Rosenberg does not hesitate to regard it as the most powerful of cholagogues. The knowledge of this property enables us to understand the utility of olive oil in the treatment of biliary lithiasis.

In another number I shall take up the practical side of the treatment of gall stones.

LAMPASAS, TEXAS, AS A HEALTH RESORT FOR NORTHERN PEOPLE.

BY J. W. CARHART, D. D., M. D.*

As physicians, more than any other class, seek to protect the public against disease by the establishment of the wisest and the best sanitary measures, so likewise, when the people are sick the better class of physicians seek to cure them by the use of the fewest possible drugs. A counter statement is also true, that patent medicine men and quacks are the worst enemies of public health.

True physicians are sanitarians, and contribute more, therefore, to public wealth than any other class of men. Twenty millions of dollars spent annually by the people of the United States for patent medicines, is twenty millions of dollars of robbery, with uncounted millions in consequence of impaired health and loss of life.

To avoid or to supplement medicines, physicians ransack the world in search of health resorts for their patients, who may be in circumstances to be benefitted by their advantages.

They undertake travel, scientific research, and not infrequently residence amid most offensive surroundings, and with most uncongenial, not to say dangerous, neighbors, in order that they may fully test, by personal experience and by clinical observation, the effects of the climate, mineral waters, scenery and surroundings of different localities.

I do not remember to have known of any reputable physician being guilty of commending the suffering to any locality where they would not be likely to be benefitted. The true physician's first concern is for his patient. Such interest is the stamp of true nobility amongst us.

As a result of this spirit there have been discovered about nine thousand medicinal springs in the United States and Canada. Their waters, for the most part, have been analyzed, and their therapeutical effects more or less carefully noted.

Dr. Beaumont Small, in Wood's Reference Hand-Book of the Medical Sciences, Vol. 4, p. 691, says: "The ancients valued mineral waters highly as natural medicines, and thought them endowed with miraculous powers. The earliest writers on the art of medicine allowed them a prominent place in their list of remedies.

Throughout many centuries such springs have continued to be the resort of the diseased and the enfeebled, and at the present day the same courses are followed, and the same ills treated, as when patronized by the Romans. Very little progress has been made in their application, and, probably, no better results have been attained from our more perfect knowledge of their constituents. The waters of Europe are more thoroughly utilized than those of this country. A course of the waters there are more rigorous and more closely adhered to, and more perfect appliances are in use for bathing and inhaling the waters, both in the form of steam and spray. In this country there is not the same faith in their curative properties; the provisions for their use are more crude; and even the selection of the water is, in a great measure, controlled by the patient's own ideas. This is generally due to the influence of the proprietors of springs, who act independently of medical men, trusting rather to the atmosphere of quackery with which they surround their possessions."

The mineral springs of this country have a wide range of chemical properties and therapeutic effects. The two principal belts in the United States in which mineral springs are found, lie contiguous to the Rocky Mountains on the West, and the meanderings of the Appalachian chain in the East.

With the theory of their development, we have nothing to do at present. Proprietors of medicinal springs, or of hotels located in their immediate vicinity, or some one interested in "booming" a watering place, are so inclined to exaggerate and mis-state, that the public have often been misled and imposed upon, so that now to name a certain locality a "Health

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Resort" is to ruin it, no matter what its natural or acquired advantages may be. This is largely true with regard to Lampasas. So many and extravagant and absolutely false statements have been put forth in the public prints in regard to the place, its surroundings, and immediate advantages, that it has been wellnigh ruined by its professed friends. Scarcely yet have sober thought, business enterprise, truth, and honesty, taken possession of the minds of the people.

When the G. C. & St. Fé R. R. made this place its terminus, there was a rush of all sorts, kinds, and classes, embracing some good, honest, intelligent, and enterprising people.

The first misfortune to the place was an attempt to make it a *summer* resort for *Southern* people. This has proved a failure, as Southern people can satisfy themselves better at Northern resorts, such as Saratoga, and the various and attractive watering and pleasure resorts in Wisconsin and in the vicinity of the Great Lakes.

The second mistake arose from an inordinate desire, on the part of most hotel keepers, boarding house proprietors, merchants, and others, to become suddenly rich, and who seemed to combine to extort the last dollar from every victim who set foot in town.

The third, almost fatal, error was a spirit of intolerance towards all who came here to remain with a view of making a living by honest industry or business. They were perfectly welcome to come and leave their money, provided they would leave when they had dropped what they brought.

A fourth ruinous mistake was in supposing that the mineral springs here would be such an attraction that people could not remain away, no matter how unsanitary the city, how rough and unkept its streets, or how devoid of sidewalks, street lamps, parks, shade trees, and all other things that make a town healthful, attractive and beautiful.

The city government, which promises now to be among the things that were, seemed, for the most part, to be maintained for the purpose of assessing taxes, collecting the same, and paying out to the city officers several thousand dollars a year for said arduous work.

A system of water-works costing forty thousand dollars, and worth about twenty thousand, pumps water from a pool which receives the wash and drainage from the barnyard and outhouses of the Park Hotel, several sheep camps and cow pastures, and to furnish fuel for which the shade trees in the public streets have all, or nearly all, been cut down. It would seem that the foregoing disadvantages and drawbacks were sufficient; but we will mention one more, and then proceed to give some of the many beauties, attractions, and advantages, of the place as a health resort for all classes, more particularly as a winter resort for Northern and Eastern people.

The patent-medicine and quack-doctor spirit prevailed here to such an extent that, it was thought the best way to "boom" the town was to get certificates from "Tom, Dick and Harry," as to the wonderful cures that had been experienced by residents here, and by an *ad libitum* and ignorant use of the waters.

As I review these certificates now—many of them from our wealthiest and most respectable citizens, I find them so preposterous as to disease, and so miraculous as to cures, that no physician would take the trouble to wade through them, much less to believe anything they contain. Multitudes came, suffering, as they supposed, with diseases such as had been miraculously cured here; plunged into the pools of cold water at all hours, and several times a day; some died in the baths, whilst others went away worse than they came—some in their coffins; and comparatively few were benefited, except as they would have been benefited almost anywhere from rest, a change of scenery, diet, and surroundings.

Geographically, Lampasas is located about centrally in the State of Texas. It lies in a basin surrounded by numerous and picturesquely beautiful hills. I am familiar with the scenery in most of the States of the Union, and know of nothing surpassing this region of country for quiet beauty.

(See illustration, Scene on Sulphur Fork, in Supplement.)

Sulphur Fork, a considerable stream, meanders through the town, and winds through the rich and beautiful valley, stretching several miles in either direction. According to the survey of the G. C. & St. F. R. R, Lampasas has an elevation of about fifteen hundred feet above sea level. The elevation here is a continuation of the high ridge running north and south in the vicinity of San Antonio. There are no swamps or marshes, which so frequently accompany mineral springs. The prevailing winds are what are known as "Gulf breezes," from the South. The nearest town or city south of us is 26 miles distant, so that the air comes to us sweeping over mountains, through the valleys, and across prairies, as pure as it is possible for air to be. The atmosphere is generally dry, but possesses sufficient humidity for health and comfort. In the absence of instruments of precision, we are unable to give the exact relative humidity, or the amount of rainfall. The winters are usually mild, allowing of outdoor life for a considerable portion of the time. Occasionally "Northers" shut us indoors, and serve to purify the atmosphere and invigorate the system. The numerous drives, in every direction from town, are magnificent beyond description. Tastes the

most varied can be gratified, in buggy drives or horseback rides over mountain roads, many of them as smooth and beautiful as drives in Central Park, New York; or the vicinity of the Colorado River can be reached at a distance of 18 miles, where is an unbroken wilderness of cedar, and scenery as wild and grand as one could desire.

The town is supplied with several first-class livery stables where carriages and trained saddle-horses can always be had at moderate charges. The Park Hotel, the largest in town, is first class in every particular, and will accommodate about 250 guests. The Globe and San Geronimo are good and comfortable of their class. There are also a number of private boarding houses. (See illustration, "Park Hotel," Supplement.)

Parties contemplating a visit, particularly for purposes of health, should by all means consult some reputable physician resident here, before engaging board. The bathing facilities may be surpassed at watering-places in Europe, but there is scarcely anything in America to equal, and certainly nothing to surpass them.

This brings us to a consideration of the springs themselves, chief of which are the Hanna, the Hancock, and the Cooper. There are other springs of less note, though of considerable value. Aside from their medicinal qualities, these springs are natural wonders. Surrounded by magnificent groves, and arising bodily from the earth, they discharge nearly two and one-half million gallons of water in twenty-four hours. The rocks in the streams, for long distances below the springs, are whitened by the deposits. (See illustration, "Hanna Spring Pool," Supplement.)

The following analysis and comparative statement is made by Prof. Everhart, of the University of the State of Texas:

It will be seen from the above statement, that the therapeutical effects of these waters are decided, and there is no doubt of their value, in certain cases, when intelligently used. The chloride of calcium is a resolvent, facilitating the removal of effete matter from the system. Chloride of sodium, being a normal constituent of the blood, and contributing to the removal of products of disintegration, is of great value, being present in these waters in large quantities.

Where the system is overcharged with excrementitious matter, and tissue changes are slow, the free use of these waters supplemented by baths, accelerates circulation, and produces more vigorous action of all the organs, thus correcting the morbid state caused by this condition. The chloride of magnesium gives these waters sufficient purgative effect, in the most of cases, to correct constipation, and to carry off the waste products of the system. The tonic effect of the warm baths in these waters is quite surprising. Of course, if indulged in too freely, a weakening effect is the result. The sulphurated character of these waters also adds much to their reputation. Sulphurated waters are usually more popular and valuable than any other. It is a well-known fact that the sulphurated saline and alkaline

UNIVERSITY OF TEXAS, LABORATORY CHEMISTRY, AUSTIN.

	Hanna, Lampasas. Temp. 73½°. Grains per Gal.	Cooper, Lampasas. Temp. 70°. Grains per Gal	Chittenango, N. Y., Magn. Spring. Grains per Gal.	Greenbrier, White Sulphur, Va. Grains per Gal	Blue Lick, Ky. Grains per Gal.	Harrowgate, England. Grains per Gal.
Hydro Sulphate of Sodium	0.111	0,827	0,757			12,384
Hydro-Sulphate of Calcium			0.929			
Sulphate of Magnesia			12,718	19,032		
Sulphate of Lime	0.951	4,461	115,085	73,184	44,136	0,104
Hydro-Sulphite of Soda	0,775	0,227	0,020	1,168		
Carbonate of Magnesia			20,779		0,144	
Carbonate of Iron			0,325			
Chloride of Potassium	10,388	3,586	0,333		1,800	43,760
Chloride of Sodium	555,869	346,974	1,833	0,510	518,556	688,144
Chloride of Magnesium	50,049	21,857		0,160	37,728	44,552
Chloride of Calcium	48.905	48,147		0,024		64,392
Carbonate of Lime	34.465	11,372		3,528	25,064	9,896
Sulphate of Soda				9,352		
Sulphate of Potash					12,976	
Sulphate of Iron				0,152		
Iodide of Magnesium	Trace.	Trace.			0,152	Trace.
Bromide of Magnesium	Small Amount.	Small Amount.			3,808	Trace.
Alumina	2,286	3,540	Trace.	0,024	1,968	
Silica	1,673	0,565	0,577		1 000	0,200
Total solids per gallon	705,371	441,556	153,356	107,134	646,312	877,264
	Cubic Inches.	Cubic Inches.	Cubic Inches.	Cubic Inches.	Cubic Inches.	Cubic Inches.
Sulphuretted Hydrogen Gas, per gallon	5.82	2.07	5.62	2.96	8 16	4 25
Carbonic Acid Gas, per gallon	11.80	45.11	19.46	8.48	48.16	17 60

waters are regarded as of the greatest therapeutic value.

It has been generally supposed that the immediate vicinity of these springs was unfavorable for consumptives or for those suffering from any form of lung or bronchial trouble. Such is not the fact. Scarcely a case of consumption of the lungs was ever known to develop here, and many, coming early enough, have found decided benefit, and some have been entirely cured. The sulphuretted hydrogen gas, so abundantly emitted by these springs, according to late teachings, is the remedy, *par excellence*, for pulmonary phthisis. The large amount of carbonic acid gas, whether of any curative value in itself or not, undoubtedly serves as an important vehicle for the other constituents of the waters.

I have now practiced medicine here for nearly six years, and have seen but one well-defined case of diphtheria. That was the case of a lady who had just returned from a protracted visit to relatives in a city in the northern part of the State. Diphtheria is, therefore, practically unknown. This resort, consequently, affords to families in the large cities in the North and East, the best winter refuge from the terrible scourge with which I am acquainted. Here congenial homes for the winter could be found, in our hotels and private families, with almost perfect immunity against that disease, and at moderate rates.

An advantage possessed here over Florida and many other winter resorts, is the fact that parties from the North and East can remain, until it is warm weather at their Northern homes, without fear of malaria. In consequence of the elevation of the place and the strong prevailing winds from the Gulf in the summer, to the Northern people the summer is far more enjoyable than one would be led to suppose.

Physicians in the large cities, North and East, having families under their care who wish to spend a delightful winter South where they will be free from exposure to that blighting scourge diphtheria, cannot do better than to send them here.*

SURGICAL CLINIC—DETROIT EMERGENCY HOSPITAL.†

BY HAL C. WYMAN, M. S., M. D.,‡

Case 1.—Edward P., æt. 27, received some years ago a blow on the head which caused a depression of the skull over the right parietal eminence. Since that time he has been subject to attacks of epilepsy, which have gradually increased in frequency until it becomes evident that surgical interference is necessary. My purpose is to trephine at the site of the depression. The patient's hair has been cut short, and the head thoroughly washed in a 1-1000 solution of the bichloride of mercury. He is under the influence of chloroform. I now make a semi-circular incision in the scalp over the depressed portion, and carefully dissect back the flap. Here is exposed the periosteum or pericranium. I raise this and lay it back. I then apply the trephine and carefully bore through the skull. In penetrating the skull with the trephine, care must be taken not to wound the membranes with the sharp teeth of the instrument. Therefore, after we reach the diploë, which is indicated by a flow of blood from the circle cut by the trephine, we introduce into the circle the end of a bone elevator and pry up the button. Now you see the outer table of the skull is removed and we must again resort to the trephine to remove the inner table. By alternately cutting with the trephine and prying with the elevator, we bring away the inner table. You see, as I pass it round among you, the inner table is much thickened, and shows the ossified callus which marks the seat of an old fracture. You see that the membranes bulge into the opening, showing their readiness to take advantage of the relief from pressure. I now put the flaps back into place and stitch the edges of the wound together, dressing it with iodoform and covering with a piece of oakum, sterilized by heating on the stove, to absorb any fluids that may escape from the wound. I then likewise cover it with a layer of sterilized cotton, and bind the head with a roller bandage. The patient will be put to bed, and the dressing changed daily, providing it becomes soiled with fluids from the wound, otherwise it will remain undisturbed until the wound is healed.

Case 2.—*Extra trochanteric periostitis.*—This patient, Mr. S., has been troubled for a long time with pain on the exterior aspect of the thigh over the great trochanter. He is a farmer, but for some years has been unable to pursue his occupation. We see here, on the thigh, marks left by plasters and setons which have been used at different times. I make a free incision over the great trochanter and scrape away the periosteum, wounding it, and then by stimulating, excite better nutrition. I now introduce a drainage tube and stitch up the wound. The patient is directed to have tonics with plenty of nutritious food daily. He rallies promptly from the anæsthetic, and will probably suffer little inconvenience from the operation.

I will use this case for the text of a few words about periostitis.

This man's history presented no disease

* By any communication with James S. Clark, Gen. Passenger Agent of the G. C. and S. Fé R. R. at Galveston, Texas, excursion rates can be obtained, thus materially reducing the expense of travel to and from this point.

† Reported by Caryl B. Storrs, Student of Medicine.

‡ Professor of Surgery in the Michigan College of Medicine.

to account for the periostitis. Most of the cases of inflamed periosteum are the result of slight or severe bruises suffered by people who are weakened by recent fevers which have lowered the vitality and ability to repair damage. I have known periostitis of the tibia to be caused by lying cross-legged during typhoid fever. One limb resting on the sharp edge of the tibia so long, damages the periosteum and it becomes inflamed. Fever patients often bruise the periosteum during attacks of delirium, and the enfeebled vitality retards the cure. In the treatment of periostitis the value of early and free incision can not be to highly extolled. If such treatment is neglected there is danger of the bone being necrosed. I have known the entire shaft of the fibula to be necrosed by an attack of simple periostitis. As soon as you feel a painful embossed spot upon the periosteum of one whose corporative powers are weakened, incise it and give the fluids a chance to escape.

A CLINICAL LECTURE.

BY DR. SAMUEL BELL.*

This old gentleman some of you will recognize as being in the clinic before on account of a tumor in the inguinal region which interferes with his locomotion, and which is so intimately connected with the upper part of the femoral artery, (portions of the tumor being also adherent to the epigastric and circumflex iliac arteries, the femoral vein and nerve), that our Professor of Surgery, after an exploratory incision, decided that removal would incur too great risk. To-day the case is of interest to us from a *medical*, instead of a *surgical*, standpoint. Placing the fingers over the radial artery at the wrist, an abnormality in the course, size and impulse is distinctly felt, and exploring the body wherever the vessels appear near the surface, we find existing this same condition, varying only in degree. The pulsations of the heart are irregular. The first sound is abnormally short and weak; the second sound is prolonged. The interval between the second sound and the first sound, known as the "period of repose," is of unusual length. At the close of "systole," or first sound, we hear a murmur, distinctly audible and resembling an "anæmic murmur." The apex beat, which should be between the fifth and sixth ribs, in the fifth intercostal space, is carried to the left, and downwards. This indicates hypertrophy of the left ventricle.

The man, although apparently suffering no inconvenience on account of the condition of the heart and arteries, has performed manual labor until recently, when he was forced to suspend on account of the pain and other distressing symptoms caused by the tumor in the groin. The internal coat of the arteries is the seat of lesion. The inner coat is a continuation of the endocardium, and consists of a thin, homogeneous elastic membrane covered with a layer of elongated epithelial scales. The middle coat which forms the more bulky portion of the arteries, is composed chiefly of yellow elastic tissue. The inflammatory process originates in the "tunica intima" by a thickening due to a proliferation of cells within the internal coat, and degeneration takes place. The middle or muscular coat is involved. Calcareous deposition takes place upon the endothelial layers, and as a consequence we have a narrowing of the lumen. The normal elasticity and resiliency of the arteries is lessened or entirely lost. The tortuous course which we find so pronounced in this case is due to the contraction of the internal coat, and the hardened condition is caused in part by the calcareous deposit, and in part by crystals of cholesterine. Fatty granules and fatty acids are also found in some cases, and in rare cases the muscular coat of the larger arteries becomes obliterated.

THE ÆTIOLOGY OF CHRONIC ENDO-ARTERITIS.

It is a disease of advanced life. Gout, rheumatism, syphilis, Bright's disease, lead-poisoning, and over-straining of vessels, are the main factors in the ætiology of this disease. This man has enjoyed good health, never suffering from any of the above diseases. He has labored hard for many years as a "digger" at the "Water-Works," and from the nature of the employment might originate this condition from the constant strain of the muscles by the position and character of the labor he was compelled to perform. The prognosis is uncertain, and the treatment unsatisfactory, to say the least. Apoplexy may occur at any time, if the vessels are over-strained; dissecting aneurysms are likely to appear; and the lungs may become emphysematous.

We will prescribe an hygienic treatment, and hope that he will live to a good ripe old age; but there is no therapeutical treatment which will in the least antagonize the disease.

CASE 2.—The boy before you, came into our clinic about two months ago complaining of a persistent cough, which he ascribed to taking cold. At that time, the examination revealed a slight rise of temperature; auscultation gave us a prolonged expiratory murmur and mucous rales; percussion negative. Beech-wood creasote in combination with hydrocyanic acid was prescribed, and decided amelioration of all the symptoms followed. To-day he returns after an interval of two months, reports that his cough has returned, and complains of slight pain in chest. We will now make a physical examination, as from the

* Professor of Physiology and Histology in the Michigan College of Medicine and Surgery.—Reported by F. S. Hough, Senior Medical Student.

symptoms manifested we are led to suspect they may indicate *phthisis incipiens*. Inspection reveals nothing definite. Percussing carefully over apices of lungs, I find a difference in resonance; over left lung slight dulliness, more particularly in the infra-clavicular region. Auscultation of left lung gives us bronchial respiration, but no distinct ronchi; over right lung vesicular murmur exaggerated in a marked degree, showing that this lung is doing more than ordinarily, as occurs in all organs where they exist in pairs when either become affected in such a way as to prevent the performance of its function. In 1882, Koch discovered the *bacillus tuberculosis*, and that is the centre around which all the phenomena of the disease must revolve. It is in the first stage of this disease that we as physicians can be of much utility. In many cases of phthisis incipiens, even skilled brains are unable to determine the true nature and progress of the disease until changes have taken place in the lung-substance, and valuable time thus allowed to pass.

In many cases, even when auscultation and percussion give negative signs, microscopical examination of the sputa of the patient is of decided practical importance. A communication to the Royal Medico-Chirurgical Society emphasized the variety of cases in which the examination of sputum was very important:

1. When no physical signs of respiratory organs could be recognized by our ordinary methods of diagnosis.

2. Laryngeal disease of uncertain nature, without definite pulmonary signs.

3. Signs of bronchitis with or without emphysema.

4. Signs of pleurisy.

5. Signs of doubtful import: (*a*) anomalous physical signs; (*b*) slight signs at apex; (*c*) signs confined to, or most marked at base.

Ninety cases were examined by Kidd and Taylor with positive results. No great amount of skill is required to detect bacilli if they are present.

The bacilli when found, as they often can be even prior to the detection of changes by our ordinary methods, are of the utmost significance. Troup, who is one of the pioneers in this direction, did not find the bacilli in every case (for they may be temporarily absent); but when found, they give unmistakable evidence, as they are found in no other disease.

Elastic tissue from the alveoli will also be found in the sputum, even before the bacilli, or before any evidence of a definite character can be elicited from percussion or auscultation. The examination of the sputa for the coma bacillus and shreds of elastic tissue, should go hand-in-hand, says Francis Troup. No elaborate apparatus is necessary, or any great amount of technique. A power of 250 diameters will detect a disintegration of lung tissue in the sputum.

With reference to the case which you see before you, we shall secure some of his sputa, and give you a chance of viewing the bacilli if we succeed in finding any.

The treatment of these cases has engaged the best medical minds over almost the whole civilized world. During the last year several agents have been used—some lauded as specifics—iodoform, sulphuretted hydrogen by inhalation or rectal injection, menthol, thymol, carbolized iodine, and the parenchymatous injections of creasote and hydrofluoric acid. The latter two are the only ones that have had any success worthy of recapitulation. We shall prescribe the following for the patient:

℞ Creasoti (Beechwood), ℥ ss.
Syr. Pruni Virginianæ, ℥ j.
Spts. Frumenti, q. s. ℥ ij.

M. Sig.: Teaspoonful 4 times a day.

A FEW NOTES ON THE THERAPEUTIC VALUE OF ERYTHROXYLON COCA.

BY DR. JOS. ADOLPHUS, ATLANTA, GA.

I have grown into a liking for coca as a remedial agent in the treatment of some forms of nervous diseases, and I may say also of catarrhal affections of the gastro-duodenal mucous membrane.

Coca is a stimulant of a peculiar order, varying in several important particulars from other stimulants, inasmuch as it is peculiarly tied to the sympathetic system. In this particular I have noted a singular likeness between the therapeutic properties of coca and capsicum, only that the latter has some influence through sensory nerves, and thus acts also in a reflex way.

Coca and capsicum combined, form a most valuable stimulant to the nervous mechanism of the gastro-intestinal mucous membrane.

The influence exercised is over functions of movement and secretion. A case in point will illustrate. A gentleman who is a hard worker mentally, found his health failing. His rest was broken at night; stomach performed its functions imperfectly; food was tardy in digestion; cardialgia; acid secretions abounded; heart flutter and often nightmare.

He had been under treatment several months with little or no benefit, and came to me to ask help for the heart flutter. Constipation was a marked feature of his case, and among other complaints he made was, his eyes were failing. He had much trouble with spectacles. He found he was compelled to close one eye while he read or wrote. Accommodation was bad in the two eyes, but much worse in the left than in the right. One eye needed a glass 3 points stronger

than the other, but as no glass or glasses suited him longer than a day or two, he found it requisite to increase the strength of the lenses frequently. Then he would go back to weaker ones because of the pain the stronger ones caused. Ophthalmoscopic examination of eyes showed only a slight congestion of vessels of retina. His heart trouble increased, also constipation and heartburn. I immediately put him on P., D. & Co.'s fl. ext. coca 5 drops, number six, 20 drops, to be taken in a half tumbler of water after meals. This was an attempt to better the heart and stomach, and singularly enough he found his eyes growing much better after two weeks of this treatment. I closely examined his urine and found neither sugar nor albumen, but a large quantity of urea and oxalate of lime.

He was soon able to sleep better, with no more nightmare. This was one of the first symptoms that gave way, and with it the eye trouble, for now he could use No. XII glasses with comfort; was no longer compelled to close the weak eye while reading or writing. The bowels became more regular, and he expressed himself as being really a new man in every way.

The point that most interested me was the influence the coca had on accommodation by strengthening the muscles and relieving the intra-ocular congestion. In this particular we may, I think, score one for coca, and I am strongly inclined to believe it will be found of much use in treating several forms of eye troubles. This case is one of several.

In the catarrhal state of the gastro-duodenal mucous membrane, coca has very excellent influence, most probably through the vaso-motor and vaso-secretory nerves. It will dry up a catarrh, and will act on the vaso-motor constrictor fibres of the sympathetic. Coca also stops the heart-burn in sour stomach. I find two or four grains of good myrrh added to each dose does remarkably well, especially when the tongue is red and parched, and the pit of the stomach sore to pressure.

A case of oxalic-acid diathesis with large dumb-bell crystals of oxalate of lime in the urine, was finely treated by coca, fluid extract, in doses of three drops, three or four times a day.

The value of fluid extract coca in some cases of opium habit is too well established to be questioned. The class of cases it is best suited to, are those with catarrh of the stomach and intestine, and irritable heart.

The terrible prostration such persons undergo, is often serious enough, but coca is really a kind of half specific since it really cures the opium habit.

It is a sad sight, however, to behold a victim to coca; equally as bad is the one who has been exhausted by too much coca—a rather common fault, owing to too large doses.

Correspondence.

DIET IN URINARY INSUFFICIENCY.

PARIS, January 29th, 1890.

The celebrated Prof. Dujardin-Beaumetz, of Paris, gives us the following hints to guide us in prescribing the diet for patients afflicted with urinary insufficiency.

The regimé suitable for this trouble, as well as for albuminuria, should be based on two principles: 1st, to prevent as far as possible the formation of poisonous products or toxines in the system; 2d, to reduce to a minimum the quantity of toxines introduced into the organism.

It is said that the various sorts of meats do not contain ptomaines, but this is an error, for they are formed in the organism as soon as death occurs, and increase rapidly in quantity in proportion as putrefactive changes take place. There are certain sorts of meats—fish in particular—in which the ptomaines form very rapidly.

Who is not familiar with the odor of cod-fish due to the presence of ptomaines?

All kinds of meats should therefore be forbidden, especially game, which is apt to be tainted.

As to aliments which may be permitted, the first place should be given to eggs well cooked, as they have no influence upon the production of albuminuria; omelettes and starchy matters, (especially pure), as of potato and peas; also green vegetables well cooked. In the way of beverages, milk is especially recommended, and if wine be allowed it should be white wine diluted with water.

If any meat at all be allowed, it should be beef *à la mode*, chicken with rice, or fresh pork.

Strong cheese, of which so many patients are so fond, should be forbidden.

If a patient can be made to follow this regimé rigorously, and if from time to time a light purge be given, life may be prolonged for a long time, even though the kidneys be notably inefficient.

TOTAL RESECTION OF THE BONES OF THE FACE.

Multiple tumors of the bones of the face are relatively rare. The following case, however, offers an example of this affection. It was a woman 32 years of age, who was affected with osteo-fibromata of the sphenoid and the maxillæ.

The disease commenced nine years ago, and after it had run a course of three years the right upper maxilla was resected. The patient was seen for the first time by Prof. Péan in 1888, when the face presented a hideous appearance. The left upper maxilla was en-

larged to the size of a fœtal head, and the lower maxilla was also swollen. The cheeks, eyelids, and nose, were pressed out of place, and the buccal, orbital and nasal cavities obstructed. The acts of mastication, deglutition, phonation and vision were all interfered with.

In the first operation the upper part of the face was laid bare by an incision in the median line, through the upper lip, and the root as well as the bridge of the nose. The superior maxillæ, the malar bones, the pterygoid processes, the naso-orbital septum, and the floors of the orbits, were then removed. It was observed that the lower plate of the sphenoid was invaded, so this was resected also, and beneath it in the spongy portion was found a little molar tooth lying transversely.

In the second operation, which took place six weeks later, the lower maxilla was also resected. There was found imbeded in the tissue of this bone, beneath the periosteum, a canine tooth, also lying transversely.

These misplaced teeth were looked upon as the cause of the tumors.

The results of this double operation were extremely favorable. The incisions healed by first intention, and the patient remained free from a return of the trouble after fourteen months.

In order to correct in a measure the deformity and the functional difficulty resulting from this tremendous destruction of tissue, a nose and upper lip made of celluloid were arranged to take the place which these organs had occupied.

A false upper and lower jaw, united by a steel spring, were placed in position and united to the soft parts, so that the patient was able to retain the saliva, to chew her food, and also to talk.

As a result of this operation, the following conclusions are drawn:

1. The total ablation of the skeleton of the face may be performed with success.

2. It is indicated in the case of osteo-fibromata resulting from dental heterotopies, when the neoplasms occupy the maxillæ at the same time.

3. In such cases it may be followed by a lasting cure.

The question of the bacillary origin of disease is one which is studied with the most intense interest all over France, and researches of the most thorough and conscientious character are constantly being made in the different laboratories with a view to discovering new microbes, and determining with precision their relation to disease.

In view of our present extensive knowledge of microbes and micro-biology, and the light which they have thrown on the causes of many diseases, it is hardly possible for an intelligent mind to doubt that malaria belongs to the class of affections in which micro-organisms play an important part.

Up to date, in spite of long-continued research on every hand, no one has been able to isolate the microbe in question; but a few years ago a physician of the Paris hospitals, named Laveran, published an article in which he describes at length a new hæmatozöon, which in all probability is that of malaria. Time alone will tell us surely whether this is really so, but at the same time the experience of Dr. Laveran has already been verified by numerous observers, and even by one in America.

Dr. Laveran sought for this microbe, not in the atmosphere, where it is extremely difficult to distinguish the different micro-organisms, but in the blood itself, and it was here that his efforts were crowned with success.

This parasite assumes various forms, of which the most common is spherical, small, round bodies formed of a colorless hyaline substance, extremely transparent. These small corpuscles attach themselves to the blood globules, and some observers claim that they even penetrate into the substance of the globules. Dr. Laveran does not share this opinion however, but considers that they simply depress the wall of the globules without penetrating their interior. A single blood-globule may support three or four of these corpuscles, which growing at its expense, cause it to become pale, and end by destroying it. They are animated by amœboid movements, elongating and extended themselves in all directions, and then resuming their spherical form.

There can sometimes be observed, around these spherical corpules, transparent filaments also endowed with extremely rapid and varied movements in all directions. Dr. Laveran has also described several other forms of this parasite, but I will not take up space here to enumerate them.

These parasites are considered to be the cause, not only of the attacks of fever, but also of the various organic changes which result from malaria.

They have been found in large quantities in the vessels of the spleen and liver, and also in those of the brain.

Dr. Laveran called this parasite the hæmatozöon of malaria, but it should be called the hæmatozöon of Laveran.

Out of 480 cases which he has examined, Dr. Laveran has found his hæmatozöon in 432, and in the few cases which gave negative results there was generally a reason to explain it. Either they had been already treated by quinine, or else were cachectic cases of long standing in which no regular attacks occurred.

Our own compatriot, Dr. Councilman, has been able to find this parasite in every case of malaria which he has examined, and has never found it in well persons or those affected with

other troubles. Moreover, they disappear rapidly the moment that the phenomena of malaria cease, whether this occur spontaneously or as a result of treatment.

Finally, if the blood taken from a subject affected with malaria be injected into the veins of another subject, the examination of the blood taken from the latter will reveal the presence of this same parasite. This same experiment has been verified by different observers a number of times, and it may be considered as proved that malaria is capable of being inoculated.

The character of the parasite in question being known, it is much easier to search for it in the water and soil of infected localities. Dr. Laveran has already found, in water taken from marshes, bodies which closely resemble those of his parasite, but no one can state positively that it is so until the day that true malaria is produced by its inoculation. It is already some years since Dr. Laveran discovered his parasite and claimed that it was that of malaria.

His discovery was received at first with doubt and even skepticism, but since, it has been verified by numerous observers, especially in Italy where this disease is extremely prevalent.

MEETING OF THE TRI-STATE SANITARY ASSOCIATION.

January 21st, 1890.

EDITOR MEDICAL AGE:

DEAR DOCTOR:—Arrangements have been completed to hold a Tri-State Sanitary Convention at Wheeling, W. Va., Feb. 27th and 28th, 1890. Representatives will be present with papers and addresses, from Pa., W. Va. and Ohio. The object of the Convention is to consider the question of floods and their results from a sanitary standpoint, and the best methods of managing the sanitary interests of a given community after such a calamity.

Owing to the mutual relations held by these three States with reference to large rivers, and the numerous towns in each one that are annually affected by floods and their results, it has been thought wise to hold a Convention for studying how best to manage the sanitary interests of cities and towns so affected.

Every person interested directly or indirectly in this important subject, is earnestly requested to be present and assist in discussing the papers, and add whatever information he can to the solution of these practical and most important questions, affecting as they do the health and lives of thousands of citizens of these three great Commonwealths annually.* Very respectfully,

GEO. I. GARRISON, M. D., Secretary.

* Reduced rates of transportation have been secured over all lines controlled by the Central Traffic Association in the three States named, on the certificate plan.

Application has been made to the Trunk Line Association for like favor.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

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Editorial.

THE SURGEON AND SENTIMENT.

Under this caption the Boston Medical and Surgical Journal recently discussed the ideal surgeon of the laity, with the surgeon of reality as evinced through professional and private life.

The Journal assumes that the former is: "A man of given determination without any of those delicate refinements which might lead him to drop the tear of pity over the sorrows of the trembling victims of his scientific power. Stern judgment should belong to him as much as valor to the soldier, justice to the jurist, or sensitiveness to the poet. As the warrior revels in warfare, the lawyer in litigation, the clergyman in theology, so the surgeon should rejoice in bloody, physical calamity; it should be the breath of his nostrils, his reason for existence."

As a matter of fact, we believe these ideas are confined chiefly to the vulgar, and even among such, are held in the main toward those members of the profession who are most charlatanistic and ignorant.

We recall three so-called surgeons who perfectly fulfilled this ideal. One whose medical knowledge was obtained solely as a hospital steward in the regular army; one a man of mediocre medical education, by nature cruel, and who really delighted in the knife and in the sight of blood, and subsequently ended his days in an asylum; the third very like the preceding, and who, though oft boasting his nerve, and delight in operating, ultimately took his own life rather than submit to the knife that would have relieved him of an otherwise incurable malady.

A cruel surgeon, one who loves surgery for its own sake, and not for the benefits it conveys, is fortunately rare. Many there are, however, who ape a brusqueness, stolidity, and lack of feeling that is very far from real, simply because they deem it professional; or they assume such, fearing that an exhibition of sentiment might damage them in the eyes of their patrons.

A late teacher of surgery, formerly resident of Detroit, was wont to assume a jocularity

and lack of feeling before his classes he was very far from experiencing. He was a bold and skillful operator, possessed in his old age of a remarkably steady hand, yet repeatedly told the writer that he never performed an operation, even to lancing an abscess, that he did not find it necessary to nerve himself especially for the effort, and at the last moment would gladly have resigned the duty and the fee to some one else. Unmanly as the vulgar might deem it, he never used the knife upon a child that the operation was not succeeded by a period of prostration accompanied by tears, and the pain inflicted was not more acute than that suffered through sympathy by him who was the unwitting cause thereof: so tender was he that his child patients all worshiped him, as did all adults who came under his more intimate influence. He could not bear to even torture an animal in the interest of science. Yet, externally, a more brusque, and in some ways vulgar and uncouth man, it would be hard to find.

That surgeons are not devoid of the finer sentimentalities of life, especially among the Anglo-Saxon race, must be patent to anyone who is familiar with the inner life, especially the home-life, of those who are most celebrated in our Age. Among the greatest names we find poets, novelists, musicians—pastimes insuperable from sentiment. Many are naturalists, geologists, botanists, callings that may justly be deemed the sentimental branches of medicine, which itself, after all, is but a higher walk in natural history and science. Who can read Lorna Doon without recognizing the deep kindly sentiment of a large heart beneath! Yet R. D. Blackmore was bred a surgeon, and practiced surgery as a profession for many years. So too, Chas. Lever, whose rollicking humor has convulsed the whole English-speaking and reading world, possessed "the courage of a lion, the eye of a hawk, and the tender sentiment of a woman." Five times in one night he slipped out from a brilliant ball given at Dublin Castle, to console and cheer a pauper girl, ten years of age, who twenty-four hours before had suffered a compound fracture of the thigh. All the wit of the wittiest society ever known, all the attractions of wealth, pomp, and viceroyalty—the enjoyments of the dance, the table, and of intoxicating music—could not for a moment remove from his mental vision the anguish of that one little patient.

Ricord, it is said, kept a room enriched with pictures of Madonnas of the purest type of religious beauty. Billroth is devoted to the violincello. And the entrance of the surgical clinic of the late Professor Volkmann was graced with a quotation from Homer, as an inscription which could tell the passer-by that the grimness of surgery was not incompatible with the graces of culture and of the humanities: in fact, Volkmann himself was a verse writer of no mean merit, and his fairy stories are said to be unusually charming. But these in no way prevented all being pre-eminent as surgical teachers, and bold, successful, brilliant, operators.

Far from obtunding, medicine and surgery properly lead to higher sentiment, and better appreciation, not alone of humanity but, of the world and its wonders. The tendency of true professional life is the reverse from evil. Familiarity with disease may "breed contempt" therefor, but never for the individual sufferer *per se*. As "a silk purse may not be made out of a sow's ear," so sentiment cannot be inculcated through professional life in one previously devoid thereof; but the germ once planted, our profession tends to foster and cultivate it, and ennoble the finer sensibilities of the mind in those who worship "the good, the true, and the beautiful."

THE SOJA OR JAPANESE BEAN—ITS APPLICATIONS TO THE DIETETICS OF HEALTH AND DISEASE.

The question whether man can live on a vegetable diet alone, is hardly a matter of dispute, while nations, as the Hindus, are vegetarian, and individuals in all ages have substituted and thrived on a diet of which animal food formed no part. Some from principle have been vegetarian—philosophers as Pythagoras and Socrates; religious reformers as Buddha; fathers of the Church as St. Gregory of Naziana, St. Augustine, St. Clement of Alexandria, etc.; naturalists, as Cuvier and Buffon. In hot climates, vegetarianism seems, in fact, to be almost a necessity; rice and curry is the proper food for the Hindu and the Chinese, and Englishmen who have endeavored to import into tropical regions the alimentary usages of their own country, have paid the penalty in various physical ills, the most frequent of which have been incurable hepatic and intestinal maladies.

It is just as certain that in cold climates and in the temperate zone, a mixed diet is the proper diet for the healthy man, and especially for the laboring man. Experience has proved this in innumerable instances. "Six hundred and thirty workingmen employed in a manufactory of the department of Taru, France, had been sustained on a diet of bread and vegetables. There was so much sickness among these laborers that the proprietor was obliged to add butcher's meat to their daily fare. The health of the men immediately improved, so that thereafter, instead of their losing individually, on an average, by fatigue or sickness, fifteen working days in the year, they lost only three; each man thus making a gain, by the

addition of meat to his dietary, of twelve working days in the year." (Longet.)

Longet gives instances of similar experiences at the quarries of Charenton, near Paris, at the various shipyards of France, in industrial establishments, etc., and adds: "There is no doubt that the want of meat in the daily regimen has a disastrous effect not only on the physical activities of man, but on the higher activities." All this is doubtless true as regards temperate and cold climates, and the colder the climate, the more highly animalized the diet should be.

The great objection to a purely vegetable diet where great expenditure of force and substance is required, is the enormous quantity of food which must be consumed to supply the demand. The tax on the digestive organs is much greater than when a more concentrated, and more nutritious diet is employed, hence the liability to derangements of these organs. At the same time, there are alimentary substances which come strictly within the vegetarian regimen which, with respect to the azotized principles which they contain, will compare favorably with meat. Besides eggs and cheese, which vegetarians allow, there is the garden bean which has an unusually large percentage of nitrogen,—14 per cent., according to Pivion; but no vegetable product contains as much nitrogen and nutriment in small bulk as the Soja bean (*Glycine hispida*). This plant is now largely cultivated in Europe. It has been much used as a part of the dietary regimen of diabetes, as the proportion of starch is very small, only about 6 per cent., while 36.67 per cent. consists of azotozed matters, and 76.60 per cent. of fatty matters. This bean, by the quantity of nitrogen and fat which it contains, has even the advantage over butchers' meat, as has been shown by analyses. The soja enters into a variety of culinary preparations; a bread is made from it, a porridge or pudding, an artificial milk, a sauce, etc. The biscuits and cake are much prescribed for diabetic patients in Europe. There is a special advantage in using such foods in renal affections, as Bright's disease and fatty degeneration, and in certain gastric affections, as dilatation of the stomach, acute and chronic gastritis, etc.

Egasse, in a recent number of the *Voulletine de Thérapeutique* has called particular attention to the nutritive properties of the soja and the admirable diabetic bread which can be made of the flour of this bean when divested of its oil; this bread is called soja-gluten bread, and is said to be quite palatable. Dujardin-Beaumetz, in a recent Cochin-Hospital lecture, has also spoken in high terms of the soja, as being a valuable addition to the resources of the vegetarian.

It is suggested by Egasse that this bean may come, in the future, largely to supply the place of animal food to the poor workingmen in Central Europe, constituting the poor man's meat, and thus the *Glycine hispida* may have an increasing economical and social as well as therapeutic interest.

The great importance which is now assigned to poisoning by ptomaines in the pathogeny of various diseases, and especially dilatation of the stomach and the accompanying neurasthenia, makes it important that those who are over-timorous of this source of danger (a danger to which one is especially exposed in hot weather, when these putrefactive alkaloids so rapidly form) should hasten to become Pythagoreans and subsist on beans, of which the Japanese species above mentioned seems to be *par excellence* the type.

CHLORALAMID.

Another aspirant for introduction into the Pharmacopœia has evidently put in an appearance, namely, the patent medicine, chloralamid. We notice in the Oil, Paint and Drug Reporter, for Feb'y 12th, 1890, that letters patent have been granted to the "Chemische Fabrik auf Actien," formerly E. Schering, of Berlin, Germany, through their New York agents, Messrs. Lehn & Fink, who are the sole licensees in the United States and Canada, and consequently the only parties authorized to import and sell the article. The process of manufacture has been patented, the substance itself has been patented, the name has been trade-marked, and the article has been withdrawn from competition: Such prices must accordingly be paid to the agents in this country as the mother house in Europe may see fit to put thereon.

Articles are often taken into foreign pharmacopœias, because in their own country, they are not hampered by patent and trade mark, and the fact that an article is quoted in a foreign pharmacopœia should be no criterion for its adoption in our Pharmacopœia, for in this country, under the peculiar laws, the patenting of the product is possible, and it will prevent anybody from making the same product by any process whatever, thus withdrawing such article from all competition, which "is the life of trade."

THE MEDICAL AND PHARMACEUTICAL PRESS COMMENTS ON PHARMACOPŒIAL REVISION AND STANDARDIZED PREPARATIONS OF TOXIC AND NARCOTIC DRUGS.

The approaching revision of the Pharmacopœia has awakened more discussion than any previous revision. The conditions are such as to inspire the gravest consideration of

physicians and pharmacists who have at heart the progress of their associated arts.

In a previous number of the AGE, Nov. 25th, 1889, these conditions, the dangers they involve, and the necessity for thorough investigation of claimants for addition to the Pharmacopœia, by the Committee of Revision and by every thoughtful physician and pharmacist, were pointed out. We need not therefore repeat these here, but cannot but remark the unusual interest manifested by the medical and pharmaceutical press in the questions presented for discussion.

Not the least interesting of these is that of the adoption by the Pharmacopœia of a class of standardized fluids of such narcotic and toxic drugs as permit of standardization.

The professions interested, judged by their opinions as reflected in medical and pharmaceutical journals, are divided into two camps. One, and we are glad to say the majority, are largely in favor of any efforts made in the direction of improving, and making more definite and uniform, preparations of medicinal drugs. The other camp is represented by those without aspirations or desires for improvement, who confine themselves to grumbling at any and all efforts in the direction of greater attainment in their profession. This latter class we believe, in all reforms, either of themselves or through forces they are helpless to oppose, usually fall in line and accept the new when their own experience shows its greater utility. That the majority are on the side of advancement, is well indicated by the comments we append, which we select from many other similar ones, as representative of current opinion.

Among the medical and pharmaceutical journals that have approved standardization by publishing articles in favor of it, may be mentioned such influential and representative ones as the following:

Journal of the American Medical Association, *New York Medical Record*, *New York Medical Journal*, *Philadelphia Medical News*, *Philadelphia Times and Register*, *Philadelphia College and Clinical Record*, *Cincinnati Lancet and Clinic*, *St. Louis Medical Review*, *St. Louis Medical and Surgical Journal*, *Louisville American Practitioner and News*, *Memphis Medical Journal*, *Daniel's Texas Medical Journal*, *Atlanta Southern Medical Record*, *St. Joseph* (Missouri) *Medical Herald*, *Nashville* (Tennessee) *Southern Practitioner*, *Virginia Medical Monthly*, *Kansas Medical Record*, *Southern California Practitioner*, *Peoria* (Illinois) *Medical Monthly*, *Toledo* (Ohio) *Medical Reporter*, *San Francisco Medical and Surgical Journal*, *New York Druggists' Circular*, *St. Louis National Druggist*, and many others too numerous for mention here.

We append a few excerpts from some of these as illustrative of the general tenor of the articles issued, and hope to record in future the success of this almost universal demand for the officialization of a higher class of standardized preparations of toxic and narcotic drugs:

St. Louis Medical and Surgical Journal, Feb., 1890: Among the many questions that will be sprung before the Committee of Revision, perhaps none is of more importance than that now being agitated in the journals devoted entirely to pharmacy, viz.: the standardization of Galenical preparations, or in other words, the replacement of extracts, tinctures, fluid extracts, etc., made by the old officinal methods, wherein each unit of weight or measure represents a corresponding unit of the crude drug, by preparations wherein the unit represents a definite and fixed amount of the active principle of the drug.

In the discussion of this proposition, the "common sense" correctness of which must commend it to every physician, we shall have arrayed against it on the side of the druggist two most powerful factors, viz.: conservatism and self-interest,—factors so strong that we may well doubt whether the known probity and long-tried good faith of the pharmaceutical profession will be able to withstand their arguments.

Lack of space forbids us going further into this most important matter at the present moment, but we will embrace an early opportunity of laying before our readers the full scope of the propositions of standardization, and our reasons for believing that the true interest of medicine demands its adoption into the new Pharmacopœia.

Virginia Medical Monthly, Jan., 1890: We have been much interested in examining the various suggestions as they have recently teemed from the pharmaceutical and medical press. The more we think of it, the more we are persuaded that Messrs. Parke, Davis & Co., of Detroit, Mich., brought forward in 1883, the correct principle for adoption. To this firm of distinguished pharmacal chemists, is due the credit, by the introduction of their "normal liquids," of being the first to meet the wants of the profession in this matter. Especially does the medical profession show a decided preference for such "normal liquids" of toxic and narcotic drugs. They are practically concentrated tinctures or fluid extracts, *adjusted by assay* to a fixed standard of strength, which makes them absolutely uniform in composition, and hence their uniform therapeutic action. A quantitative estimation of the active medicinal ingredients of the crude drug should be demanded before the fluid preparation is made by percolation, etc., and even then the fluid preparation should be tested before being put on the market, to determine that it is of the *standard* strength. The originators of normal liquids have adopted formulæ, which make 1 ccm. of the "normal liquids" of the more potent drugs represent 1 gramme of drug of standard strength. While they have paved the way, it remains for the Committee on Revision of the Pharmacopœia to determine what shall be the standard of strength. This Committee cannot ignore the credit that rightfully belongs to Messrs. Parke, Davis & Co. for having introduced the concentrated tinctures or "normal liquids"—each one being carefully tested, and

thus determined to be of the published standard degree of potency.

Philadelphia Medical News, Feb. 8th, 1890: To any one who has given it a half hour's thought, it must be evident that all leaves, rhizomes, roots, or flowers of a plant, must of necessity vary greatly in the quantity of the medicinal substances which they contain, and it has been proved again and again that fluid extracts vary as much as twenty per cent. in the amount of their active principles. Even such a commonly used drug as aconite has been found to vary from one to twenty per cent. in a dozen stores in New York and Philadelphia. The reason of this is evident when we remember that nothing is required of the druggist by the Pharmacopœia as to the strength of the crude drugs employed, and that the temptation must always be to buy the cheapest raw materials rather than the more highly priced assayed leaves or roots. The physician has too often to submit to unjust criticism because his patients fail to be benefited by the treatment they receive, and every one sees cases get well after using a certain drug given by one doctor, although it has failed in the hands of another, simply because in one case the preparation used was poor and in the other good. Aside from the mere pecuniary loss entailed, the questions of life and death, humanity and personal confidence, are at stake. Be the means what they may, some clear, distinct plan of action should be reached, which will do away with uncertain therapeusis and give the physician reliable tools with which to practice his calling.

National Druggist, February, 1890: The variable quality of the narcotic drugs has long been recognized, but no official provision has been made towards the standardization of Galenical preparations into which they enter. Nearly all of the drugs which are embodied in this class of remedies, contain assayable principles upon which their therapeutic action solely depends. It may be urged that the adoption of a definite standard of quality for the crude material is unfeasible, owing to the fact that their quality is dependent upon circumstances beyond our control; but this argument does not apply to the various preparations of these drugs, as the strength of a fluid extract, tincture, etc., can almost invariably be adjusted to a definite standard.

If crude drugs vary from 2 to 3 per cent. above or below their average quality, it neces sarily follows that their respective preparations will be characterized by a similar lack of uniformity in strength, unless their active constituents are estimated by appropriate methods, and the finished product adjusted to a uniform standard.

The possibilities which are placed in the hands of the pharmacist by the advance in chemical and pharmaceutical knowledge, render a solution of this important question easy of accomplishment.

As a result of such intelligent and properly directed activity on the part of physicians, pharmacists, chemists, and physiologists, it is possible to make a decided advance in the way of regulating the potency of remedial agents, so that uniformity of therapeutic results must ensue. That this has already been accomplished, is assured, and there are now on the market liquid representatives of the toxic vegetable drugs, which are so thoroughly standardized as to represent the active principles of the latter with the greatest exactness. The uniformity attained in these preparations, in their adjustment to definite standards of strength, has demonstrated the easy feasibility of the principle of standardization, and constitutes a strong plea for, and argument in favor of, the necessity of giving "standardized preparations" official recognition in the forthcoming Pharmacopœia of 1890. Should the Pharmacopœial Commission decide to admit them, it is to be hoped that body will give the line of standardized preparations a thoroughly distinctive appellation—one which will mark the difference between them and fluid extracts, and be descriptive of the peculiar characteristic of the new line, viz., absolute uniformity of potency. As the term "normal liquids" has already been made familiar in this connection, it might be well that the Commission consider the propriety of appropriating the same and applying it to the line of standardized preparations.

A Retail Pharmacists Views of Standardization (*National Druggist*, February 15th, 1890). —What is the use of bucking against facts? Let us only be high-spirited, intelligent judges of the goods that we handle, and cease to deplore (?) the departure of those "good old days," centuries ago, when the venerable apothecary made all his own chemicals and preparations. That type has departed to the land of shades, along with the belted knights and steel-clad robbers for whom he mixed his potions and rolled his boluses.

> "Their swords are rust, their bodies dust.
> Their souls are with the saints I trust!"

With the long and ever-lengthening list of chemicals and preparations that we are forced to keep to day, the talk of preparing them, each retailer for himself, is sheer and utter nonsense.

In conclusion, I propose to look facts squarely in the face, and to try the question on its merits alone, and for this reason tear away the the panoply of sham, fudge, and nonsense behind which some are ensconsing themselves in in order to avoid the true issues.

St. Louis Weekly Medical Review, January 25th, 1890.—By actual experiment, the most startling variations have been found in the case of a number of preparations obtained from different druggists.

This should be a convincing argument of the gravest want of uniformity in our preparations as at present defined. Medical practice upon a basis which allows the existence, in a row of fifty consecutive drug-stores, of the same preparations in forty different strengths ranging from 25 to 150 per cent., is not much better than semi-barbarous.

The remedy for the evil is close at hand, and should be applied. It consists in the compulsory assaying of all drugs which admit of assaying; and no lot of any drug should be made up into Pharmacopœial preparations until a portion of it has been assayed, and then only upon the basis of that assay. It may not pay the pharmacist to assay his drugs for the preparation of the small lot he is to manufacture, but that should make no difference to us. The pharmacist is the caterer to our profession,

and it is his business to concede all reasonable demands, or to stand aside and let another who is willing, for of such there is an abundance. The primary objects and designs of medicine and pharmacy are not for the emolument of the pharmacist. When it has been proven that coca, belladonna and jaborandi leaves of good appearance vary greatly in medicinal power, and that in the case of these particular drugs regulation of the strength of their preparations is perfectly feasible, there can be no honest objection raised to taking this step in the case of those specified articles. In the same way let the other hundreds of Pharmacopœial substances stand upon their own merits, so far as possible. This assaying need not be done by the pharmacist in the case of each small lot, for assayed whole or powdered drugs are now offered by responsible wholesale dealers in from 1 to 100 pound lots, leaving no excuse save that of increased cost, which is, in this case, no excuse at all.

A change of this kind will be proposed, and should be supported by all the strength that physicians and the better element of pharmacists can muster.

Book Notices.

Monthly Nursing. By A. Worcester, A. M., M. D. Second Edition. Cloth, 12mo.; pp. 250. Published by D. Appleton & Co., N. Y.

The author remarks that nursing is "a new profession, and marks a glorious advance in civilization." Like the profession it supplements, it naturally divides into specialties, chief among which will always be monthly nursing.

Should the memory of the physician, to whom the art of midwifery is familiar, at any moment prove treacherous, he has always text-and notebooks at hand to settle a moot point; but the nurse, on the other hand, whether in maternity wards or in private service, lacks these sources of aid. At times too, the life of the patient lies practically in the hands of the nurse, and there are often occasions when blind obedience to routine will avail nothing, or perhaps even prove dangerous, and all depends upon the exercise of plain, practical common sense based upon the nurse's knowledge of the foundation principles of obstetrics.

It is as a freshener of the memory in the latter regard that this little volume is designed. It is in fact a brief, practical, reference handbook, and well fulfills the aim of the author, who seems to have possessed the happy faculty of saying only just enough, and saying that concisely and well.

The fault of the majority of books devoted to nursing is, they aim to tell too much—the text is padded to make a large book in fact, and at the same time to impress the reader with the profundity of knowledge possessed by the author; and what little of value there may be is overshadowed by dogmatic teachings that tend to authorize the nurse to usurp the functions of the medical attendant. Dr. Worcester's book, however, exhibits none of these, and his modesty is equalled only by the practicability of his teachings. The volume, which is the outcome of lectures delivered at the Boston Lying-in Hospital, and at the Waltham (Mass.) Training School, cannot be too highly commended for the purposes for which it is intended.

The American Academy of Medicine—Its Objects, Field of Work, and Suggestions looking to Increase of Its Efficiency. By Leartus Connor, A.B., M.D. Paper; square 12mo.; pp. 43. Reprint from American Lancet.

This is the address of the President delivered at the last annual session of the American Academy of Medicine—an organization that demands a literary as well as medical qualification as a *sine qua non* of membership. As may be supposed, the address throughout is a plea for compulsory higher educational standards as preliminary to entering upon medical study, and the subject is ably, thoroughly, and convincingly presented. One of the most astonishing facts to which attention is called—astonishing because it is a truth incontrovertible—is, that the standard in the veterinary medical profession is considerably greater than among the practitioners and students of general medicine; the veterinary colleges of any single year exhibit twice as many students who possess literary and scientific degrees, as the colleges devoted to human medicine! "Horse *vs.* man; and horse ahead!"

The Year-Book of Treatment for 1890. Cloth, large 12 mo., pp. 324. Published by Lea Brothers & Co., Philadelphia.

This annual has been so long before the profession that criticism seems almost superfluous. It is simply a concise, practical, reliable resume of medical progress during the year 1889, and as such is most valuable, not alone as a work of reference of itself, but as a reference to the current literature of the year. Among the contributors are found such names as J. Mitchell Bruce, Sir Dyce Duckworth, Peter McBride, Malcolm Morris, Edmund Owen, Sidney Phillips, E. S. Reynolds, James Ross, Frederick Treves, and W. J. Walsham.

Medical and Surgical Monographs, Vol. 5, No. 2. Paper, 8 vo., pp. 280. Published by Wm. Wood & Co., N. Y.

The contents of the current number are: "Action of Uric Acid in the Causation of Disease," by A. Haig, M. D.; "Initial Stages of Consumption, Their Nature and Treatment," by Horace Dobell, M. D.; "Ectopic Pregnancy and Pelvic Hæmatocele," by Lawson Tait, M.D. All are reprints of papers read before the British Medical Association.

Notes and News.

Buffalo Lithia Water in the Treatment of Stone in the Bladder.*—I have for many years been prescribing the use of the Buffalo Lithia Water in cases of lithiasis, uræmia, Bright's disease, cystitis, and of congener affections, and with the same marked results which have followed its exhibition in like conditions by a number of other physicians. The most striking instance, however, in which I have seen the solvent properties of the waters manifested, has been in the case of Mr. Thos. D. Moss, of this city. Mr. Moss had been subject to attacks of lithiasis for several years, but in August last, after one of the most violent attacks of nephritic colic, passed gravel from the kidney into the bladder, where it remained for a week or more, setting up a severe inflammation of that viscus, with all of its painful and distressing symptoms. Finally, however, the gravel recommenced its journey, and became lodged in the prostatic portion of the urethra, cutting off the flow of urine and causing retention. Being compelled to use a catheter for the relief of this symptom, I pushed the calculus back into the bladder, as there was too much inflammation to resort to either the crushing of the stone or to its removal by lithotomy.

I put the patient to bed, restricted him to a milk diet, administered opium suppositories in sufficient doses to relieve vesical tenesmus and pain, and directed him to drink the Buffalo Lithia Water in the largest quantities which he could bear. He succeeded in drinking from a half gallon to a gallon every twenty-four hours, and, at the end of about ten days, commenced to pass the detritus of the gravel, as I suppose, in quantities which seemed incredible. At all events, after passing his water upon a clean board, and allowing as much of it to flow off as would, you could then scrape up with a knife a teaspoonful or two (after every passage of urine) of phosphates, urates, etc., closely resembling white-wash which had been applied to the board, and which had there dried.

This continued for a week. I then washed out the bladder several times with a warm solution of boracic acid, and Mr. Moss was soon on his feet again. At this writing he says that he is perfectly well, and feels, for the first time in many years, entirely free from all kidney or bladder trouble.

Dr. Lauder Brunton as an Investigator.—The return of Dr. Lauder Brunton from India is announced in the British Medical Journal, which quotes from the Pioneer of India an engaging account of Dr. Brunton during its knowledge of him as a Chloroform Commissioner at Hyderabad. An accident which occurred to him in the course of some of his experiments, brought to light the fact that before he went out to India he visited Pasteur at Paris and had himself inoculated as a precautionary measure against the possibilities incident to a large experimentation upon dogs and other animals. The very danger which he foresaw as possible occurred to him; he was badly bitten by an enraged pariah dog which escaped the control of his assistants. When every one else present at the experiment manifested alarm, Dr. Brunton quietly reassured them by disclosing the fact of his Pasteurian treatment, saying, "It does not matter; I thought something of the kind might happen." Thus, says the journal, "there is heroism also in a Chloroform Commission." With all his inflexibility of nerve as a man of science and as an operator, Dr. Brunton was gracious and accessible even to the inquiries of a stranger, and anxious to explain everything connected with the work of the Commission. "No one who has come into contact with him," says the Pioneer, "can help being fascinated with the charm of his manner and the extent of his knowledge." Dr. Brunton has since written a letter to the British Medical Journal, in which he modestly declares that, instead of praise for heroism, he rather deserves censure for "medical awkwardness," and explains that he did not betake himself to Pasteur for inoculation, but was inoculated accidentally twelve years ago.—*N. Y. Med. Jour.*

A Druggist Sued by a Doctor.—Dr. Liggett feels damaged $20,500 by a refusal to compound his prescription. Upon the application of Dr. Samuel J. Liggett, a practicing physician, Court of Common Pleas No. 4 yesterday issued a capias for the arrest of Charles E. Peoples, druggist, 1260 N. Tenth Street, in a civil suit by the Doctor against the Druggist for $20,500 damages. In his affidavit in support of the application for a capias, Dr. Liggett says that he graduated from Jefferson College in 1878. Last month he had as patients Mrs. E. Moulden and Miss H. Stanton. He prescribed for Mrs. Moulden:

> Potass. bromide, 2 drachms.
> Tr. aconite root, 12 drops.
> Sweet spirits of nitre, 2 drachms.
> Sulphate of morphine, 1½ grains.
> Peppermint water, ½ ounce.
> Simple syrup sufficient to make 3 ozs.

Of this the patient was directed to take two teaspoonsful every two hours in water. Mrs. Moulden sent the prescription to Mr. Peoples' drug store, but the clerk refused to compound the prescription, remarking that "it would

* By John Herbert Claiborne, M. A., M. D., of Petersburg, Va., Ex-President and Honorary Fellow Medical Society of Virginia, etc. Reprint from Virginia Medical Monthly, Dec. 1889.

poison her." When Dr. Liggett called this to the attention of Druggist Peoples, the latter's clerk explained that he had refused to compound the medicine prescribed because "it would be likely to cause an insoluble hydrobromate, which would have the effect of poisoning the patient." Dr. Liggett's affidavit continues by denying that such a result would ensue if the prescription was properly compounded, and charging that Peoples' clerk was ignorant of his duties, and that through his remark the Doctor has lost two of his patients," who have refused and rejected his further services, which would amount to at least $500, and the loss of his reputation as a careful physician, which would amount to at least $20,000.—*Phil. Press*, Feb. 13th, 1890.

Experimental Researches on the Influence of Bitter Herbs on the Function of the Sound and Diseased Stomach.—N. Reichmann (Zeitschrift f. klin. Med., Bd. xiv, Heft 1 and 2; Ctrlbl, f. klin. Med., No. 49, 1889) has made a number of experiments on man in reference to this subject. His results may be summed up as follows:

1. The action of the different bitter remedies is about equal (*herba centauri*, *folia trifolii fibrini*, *radix gentianæ*, *lignum quassiæ*, *herba absinthii*).

2. In every fasting stomach, whether with normal secretion or attended with diminished or increased gastric secretion, the introduction of a bitter infusion is followed by a greater secreting activity than when simple distilled water is used.

3. When the bitter infusion is taken on an empty stomach, it stimulates the gastric secretive apparatus for some time after it has disappeared from the stomach.

4. Bitter infusions given at the same time food is taken, interfere with the digestion of the latter; they seem also to interfere with the mechanical activity of the stomach.

5. The employment of bitter infusions for several weeks, produces no functional changes in the healthy or diseased stomach.

Of practical importance is paragraph No. 3, which teaches us that bitter infusions should be given only when the secretory activity of the stomach is defective. In these cases the remedy shonld be taken half an hour before partaking of food.—*N. Y. Med. Jour.*

Report of the Secretary of the Michigan Board of Health: "*La Grippe*" is reported by a few observers; and, apparently, some call certain types of cases of the prevailing epidemic "Intermittent fever;" but, even though its causation and symptoms are somewhat like those of intermittent fever, "Influenza" is undoubtedly the best name for the disease; and it is so reported on 98 per cent. of all the weekly reports by Michigan physicians received at the office of the State Board of Health for the week ending February 1st; the most sickness being caused by influenza, pneumonia, bronchitis and rheumatism.

A Reform in Artificial Infant-feeding.—Dr. August Seibert who read a paper on this subject, and exhibited an improved sterilizing apparatus and nursing-bottle, stated that the weight, not the age, of the infant should determine the amount of food to be given it. He pointed out advantages of his method over those of Soxhlet and Escherich, not the least important of which was the very cheap price of his apparatus (one dollar).

On motion, the discussion of this paper was referred to the Section in Pædiatrics.—*Report of Proceedings N. Y. State Med. Assn.*

Therapeutic Brevities.

Alum Enemata in Dysentery.—Having read in the Lancet of Aug. 31st a paper by Mr. Hepburn on the successful treatment of an obstinate case of dysentery by strong enemata of alum, I was induced to try it in the following case, and with such success that I think it advisable to report it in order that attention may be drawn to Mr. Hepburn's method. A seaman, aged 31, had contracted dysentery abroad three and a half years previously, and since that time had never enjoyed his usual health. He had frequently suffered from tormina, had from three to ten loose offensive stools daily, accompanied by much tenesmus and by occasional passages of blood, and had gradually become feeble and emaciated. During this long period he had frequently been under treatment, but with only slight benefit. He was unable to continue his duties on board ship, and had to return to England, when he came under my observation. His appetite was bad, his tongue foul; he passed, amid much straining, from three to eight loose, frothy, offensive motions daily, sometimes containing blood; but, although griping pains were often very distressing, there was neither tympanites nor abdominal tenderness. He was carefully dieted, and among the drugs prescribed for a long period were compound ipecacuanha powder, aromatic sulphuric acid, decoction of hæmatoxylon, lead pill with opium, compound kino powder, chlorodyne, sulphate of copper pill with opium, and liquor ferri pernitratis, besides enemata of opium, of nitrate of silver, and of sulphate of zinc, and suppositories of tannin. I can fairly say that he derived no benefit whatever from any of the above. Lastly I prescribed an enema containing half an ounce of alum in ten ounces of water, to be administered night and morning. It produced slight sweating at first, but the effect in a couple of days was remarkable; the stools were reduced to one or two daily, and shortly became of natural consistence. This treatment was continued for eighteen days, when the patient expressed himself as feeling better than he had done for years; he had also gained con-

siderably in weight, and looked robust. He was kept under observation for some days after the enemata were stopped, to ascertain if there would be any return of his complaint, but as there was none he resumed his ordinary avocations.—Henry F. Norbury, C.B., M.D., in *London Lancet.*

Chronic Nasal Catarrh.—The conclusions of Dr. O. B. Douglas as to the causes, course, and cure of the above affection, were as follows:

1. That chronic nasal catarrh was not a disease *per se* or primal, but rather a symptom or result of pre existing causes, chief of which was traumatism, inducing contact of surfaces, affording a nidus for disease germs, foreign irritants, and retained acrid secretions, so inflaming contiguous tissue and producing purulent products. Atrophy or pseudo atrophy might result.

2. Chronic nasal catarrh was not a simple condition, but was complex to the highest degree, far-reaching and serious in its complications, persistent and baneful in all its relations, tending ever to extend and grow worse. Therefore it was worthy of most careful study by every physician, offering, as it did, opportunity for great achievements on the part of the diligent student and skillful surgeon.

3. Chronic nasal catarrh was curable in a large majority of cases, yielding to proper treatment as certainly as any other complex disease. It being due to or connected with obstructions, the indications were to first remove the causes. This required surgical interference backed by skill and experience which most might acquire. Subsequent cleansing, soothing, and healing, as after every surgical operation, completed the cure. Any instruments or means with which the operator was most familiar might be used, so long as the work was done thoroughly and with judgment.—*Report of Proceedings of N. Y. State Med. Assn.*

Treatment of Buboes by Iodoform Vaselin.—The following is Professor Fontain's "rapid method" of curing buboes: 1. Washing and disinfection of the region by means of hot sublimate solution (1:2000). 2. Puncture with the lancet if the skin is soft; with the straight bistoury if the pus is deeply situated. The puncture is small and made in the most fluctuating point. 3. Evacution of the pus, gently pressing out completely the contents of the ganglion. A few injections of sublimate solution are now made to wash out the cavity. 4. Injection of iodoformized vaselin melted by heat. The oil is to be gently injected in by means of a glass syringe previously charged and placed in hot water. 5. Dressing with absorbent cotton. As soon as the cavity is full of the iodoformized vaselin, a wad of cotton, soaked in sublimate solution 1:1000, is placed over the bubo, and kept in place with a spica. The contact of the cold congeals the vaselin, and makes a plug at the orifice of the abscess. After the first day all pain disappears, and, usually, healing is complete in six or seven days. In some cases it is necessary to renew the injections of vaselin. Out of forty-one buboes thus treated by the author, more than half were cured in less than five days. The most rebellious required twenty-three days.—*Journal of Cutaneous and Genito-Urinary Diseases,* December, 1889.

Diet List for Reducing Fat.—In concluding a scholarly article on "The Physiological Treatment of Obesity," Dr. Walter Mendelson gives the following diet list for inducing fat reduction:

Breakfast: 1 cup (6 ozs.) tea or coffee, with milk and sugar. Bread, 2½ ozs. (2 or 3 slices). Butter, ½ oz. 1 egg, or 1½ oz. meat.

Dinner: Meat or fish, 7 ozs. Green vegetables, 2 ozs. (spinach, cabbage, string beans, asparagus, tomatoes, beet tops, etc.). Farinaceous dishes, 3½ ozs. (potatoes, rice, hominy, maccaroni, etc.), or these may be omitted and a corresponding amount of green vegetables substituted. Salad, with plain dressing, 1 oz. Fruit, 3½ ozs. Water, sparingly.

Supper or *Lunch:* 2 eggs, or lean meat, 5 ozs. Salad (radishes, pickles, etc.), ⅔ oz. Bread, ¾ oz (1 slice). Fruit, 3½ ozs. Or fruit may be omitted and bread, 2 ozs., substituted. Fluids (tea, coffee, etc.), 8 ozs. No beer, ale, cider, champagne, sweet wines, or spirits. Claret and hock in great moderation. Milk, except as an addition to tea or coffee, only occasionally. Eat not gravies, and nothing fried.

Anemone Pulsatilla in Dysmenorrhœa.—Amongst the newer remedial agents, the *anemone pulsatilla* has become prominent on account of its efficacy and wide applicability. Bovet has found that the tincture of the plant, so greatly praised, is not so effective as the alcoholic extract prepared in June; still less active is the glucoside, the anemonin. Bovet prescribed it in dysmenorrhœa, four days before the beginning of the menstrual flow, administering 10 drops of the alcoholic extract in 4 spoonsful of wine. If menstruation has begun, the remedy is discontinued for three or four days during the same, then proceeding with it three or four days as in the beginning of treatment. If chlorosis is complicated with these disturbances, chloride of magnesium is given besides in a dose of 0.05 per teaspoon. In ovarialgias resulting from chronic metritis, or from inflammation of the annexes, this application is continued until the pains disappear.—*Jour. de Med. de Paris,* Dec: 14th, 1889.

Insufflation of Salt in the Treatment of Neuralgia.—At a recent meeting of the Edinburg Medico-Chirurgical Society, Dr. George Leslie gave the details of thirty or forty cases of facial and other neuralgias, cephalalgia, odontalgia, etc., which had been cured, in most instances instantaneously, by insufflation of common powdered salt through the anterior nares. The salt was either "snuffed" or blown up the nostrils. He had been unsuccessful in only two cases; both of these were of old standing, which had beeen treated frequently by morphine injections. In one of them excision of the nerve had been practiced.—*British Medical Journal,* December 14th, 1889.

Cardiac Displacement.—"Were you wounded in the Crimea, Pat?"

"No, yer honor; the bullet hit me in the chist and kem out at me back."

"Why, Pat, that would have gone right through your heart."

"Och, faix, me heart was in me mouth."—*Pract. and News.*

Pilocarpine. — The Bulletin Générale de Thérapeutique, quoting Lekarckie, considers pilocarpine almost a specific in the treatment of gall-stones, if given hypodermatically once or twice daily in one-eighth grain doses. Moreover, the effect upon the pruritus of jaundice is immediate, and adds greatly to the comfort of the patient. Lekarckie was successful in all the thirty cases of gall-stone submitted to this treatment.

A Tonic Nutrient Prescription.—

℞ Armour's thick ext. of beef, 1 ounce.
Tokay wine, 7 ounces.
Syrup albuminate of iron, 1 ounce.
Malt, 7 ounces.

M. Sig.—One dessert or tablespoonful after each meal.

—E. M. Hale, M. D.

Medical Progress.

Correct Official Instructions as to Disinfection with Sulphur.—The Kentucky State Board of Health has put forth a circular about contagious disease prevention, which is the first, within our knowledge, that instructs the people how to thoroughly disinfect the sick-chamber after the recovery, death, or removal of the patient. The circular in question is issued with the intent to prevent diphtheria, that disease having been unusually prevalent in many sections of the State. Its teachings with regard to the rigid observance of the known modern requirements as to fumigations with sulphur, are much more accurate than the average Board of Health directions. They, of course, apply to other communicable diseases besides diphtheria. They are in effect the teachings of the report of three years ago, prepared by Dr. G. M. Sternberg and his associates on the special committee of the American Public Health Association. In that report the injunction is frequently given that all fumigations by sulphur shall be done "in the presence of moisture." As will be seen in the paragraph given below from the new Kentucky circular, this "moisture" is sought to be provided for by the dampening of the contents of the chamber that is to be cleansed. This circular directs the following procedure:

"To disinfect the room proceed as follows: Arrange the contents of the room so as to expose the greatest amount of surface to the action of the disinfectant. Close the apartment as completely as possible, stopping all openings, as chimney flues, key-holes, etc., through which the gas might escape. *Thoroughly dampen the floor, walls and furniture.* For a room 10 feet square, use 3 lbs. of sulphur, moistened with alcohol, in an iron pan placed in a tub containing a few inches of water to avoid danger from fire. When certain the sulphur is burning well, leave the room, close the door and allow the room to remain tightly closed for ten or twelve hours. Afterward the room should be thoroughly ventilated for several hours, and then the floor, and ledges over windows and doors, and other places likely to retain dust, should be washed with the chloride solution, and then with soap and hot water. The house and premises generally should be put in the cleanest and best condition possible."

Whether this method is the best, and whether it is free from objection, time will demonstrate. There may possibly result from it some bleaching of colored articles by the action of nascent oxygen liable to be generated when the sulphur dioxide comes in contact with wetted goods, and there may be some minor damage beside. We are aware that the method recommended by Dr. E. R. Squibb calls for a larger amount of "moisture" and directs that it be present in a different form, namely: as vapor of water, produced by boiling within the apartment while the fumes of sulphur are in process of liberation. The experience of a hundred health officers and others has demonstrated, as we believe, beyond the peradventure of a doubt, that sulphur has an efficiency excelled by few, if any, of our utilizable chemicals, and it is very much to be hoped that its position as a disinfectant may be strengthened by the adoption of right methods of employing it. For this reason, if for none other, we would call the attention of all those who have considerable dealings with contagious diseases to the new circular of the Kentucky Board of Health, as an improvement upon those which have been disseminated by our authorities during recent years.*—*Jour. Amer. Med. Asso.*

A New Constituent of Tea.—In the Zeitschrift für Physiologische Chemie, Rossel writes of a new base, theophylline, found by him in an alcoholic extract of tea sent him by Dr. F. Witte, of Rostock. The greater part of the caffeine had been eliminated by crystallization. After various manipulations to remove other bodies, an ammoniacal solution of silver precipitated a double salt of theophylline and xanthine. The xanthine was removed by several hour's evaporation, which process, being continued, gave rise to brown needles of theophylline containing one molecule of water of crystallization and having the formula $C_7H_8N_4O_2$.

Theophylline is isomeric, but not identical, with theobromine and paraxanthine. Its crystals are colorless, thin, narrow, about five millimetres long, bounded by two flat surfaces and by two that are variably rounded. The diagonal section is hexagonal. It melts at 284° C., crystallizes readily from a watery solution, and dissolves easily in warm water and in weak ammonia-water, but not so readily in cold as in hot alcohol. The crystallized chloride is obtained by evaporating with hydrochloric acid. The salts seem to be decomposed by water into their constituent parts of acid and base. If platinic chloride is added to a concentrated solution of theophylline chloride, quadrilateral crystals are formed. The double gold salt, as well as the double platinum salt, crystallizes in acicular forms, grouped in tufts in the former. This grouping is found in the very important compound formed with sodium. If theophylline is evaporated with nitric acid, a yellow body results, which becomes still yellower if am-

* (Thiocamph, a combination of sulphurous acid, fulfills the indications mentioned in this article. Ed.)

monia is added, and not red, as is the case with xanthine. In the "Weidel reaction" with a solution of chlorine, with evaporation to dryness, a scarlet substance remains, which turns violet when treated with ammonia, and becomes colorless when treated with an excess of sodic hydrate.

These same reactions take place with theobromine. The analogy between theobromine and theophylline led Rossel to suppose that, as the former was dimethylxanthine, and caffeine a trimethylxanthine, theophylline might have a similar constitution. The question was decided by treating the silver salt of theophylline with methyl iodide, with the addition of methyl alcohol, in a closed tube for twenty-four hours at 100° C. On cooling the tube, a coherent mass of silver iodide was found, bearing a voluminous crystallized substance. These crystals dissolved in hot methyl alcohol, and separated again on cooling. Analysis showed that the addition of a methyl group had taken place. The resulting body was identical in reactions with caffeine.

The position of the methyl group now remained to be determined. E. Fischer had proved that under the conjoint influence of potassic chlorate and hydrochloric acid, theobromine was decomposed into monomethylalloxan and monomethylurea, thus giving a methyl group to each resulting body. His method being employed, a substance was formed that was identical with amalic acid, an oxydation product of caffeine discovered by Rochleder. This is formed from caffeine by the same method as from theophylline, and is a reduction product of dimethylalloxan, being itself tetramethylalloxantin. Both methyl groups are thus contained in the alloxan radicle. Strecker, in his synthetic experiments on theobromine, discovered a substance isomeric with it, and Rossel supposes it to be identical with the one he has now described.—*N. Y. Med. Journal.*

Bacterial Studies on the Influenza and its Complicating Pneumonia.—Thus while we gain no positive new light on the ætiology of epidemic influenza in this series of examinations, we are liable, from the results of the studies on the pneumonia which accompanies it, to establish the probability that the pneumonia, although apt to be irregular in its course and atypical in its morphology, is usually due to the same bacterial agency as is at work in the ordinary acute lobar pneumonia. How much this may be further complicated by the frequent presence of the pyogenic bacteria, is a question which must be settled by further studies on the general relationship of these organisms to inflammation of the respiratory organs and to other mucous membranes.

It would seem from these studies, furthermore, that the relationship of the influenza to the pneumonia, is that of a predisposing factor only—a conclusion, indeed, toward which clinical investigators have been already led by a different line of observations.

The phase of pneumonia which this epidemic has brought into prominence, is instructive in its relationship to the ordinary typical acute lobar pneumonia. It seems pretty well established that the *Diplococcus pneumoniæ* of Fraenkel and Weichselbaum is the most common, if not the exclusive, primarily ætiological factor in acute lobar pneumonia, judging from its constant occurrence in the affected regions, from its pathogenic effects upon animals in experimental inoculation, and from its frequent occurrence in complicating lesions.

The very frequent occurrence of this micro-organism in the saliva of healthy persons, not only does not militate against its ætiological importance, but furnishes a most satisfactory rationale of the occurrence of the disease. For under ordinary conditions the *Diplococcus pneumoniæ* appears to be quite harmless in the saliva. It is only when the suitable predisposing conditions—which we recognize in injuries, and in exposure to cold and wet, but which in many cases we do not understand at all—are fulfilled, that the growth of the germ in the lungs and its accompanying lesions can occur.

It would seem that the influenza, with its tendency to an involvment of the respiratory passages, furnishes, not indeed the common, but an analogous predisposing condition leading to an atypical pneumonia. This form of predisposition to pneumonia seems to be, in many respects, similar to that which measles furnishes in children to the incursions of varying forms of pulmonary inflammation whose determining ætiological factors have not yet been sufficiently studied.

It may be remarked in conclusion, that to the negative results of these studies on the influenza, only such importance should be attached as the small number of cases examined will justify. We simply learn that in these few cases the use of the culture methods and media commonly employed in the study of bacteria and allied forms of micro-organisms, have brought to light no living germ which there is reason to believe has anything to do with causing the disease.

But this negative result should leave us entirely unprejudiced toward any other series of observations which, with more abundant material, and a more refined or favorably applied technique, may promise a solution of the problem.—T. Mitchell Prudden, M. D., in the *Med. Record.*

Hydrastinin as an Anti-Menorrhagic.—Hydrastinin is a product obtained by oxydation from hydrastin, which has long been used in America, and later recommended highly by Schatz, in Germany for uterine hæmorrhages. It is obtained by gently heating hydrastin with diluted sulphuric acid, and precipitating with an alkali. Hydrastinin is not a heart-poison (shown by frog experiment). It produces in all animals strong contraction of the blood-vessels (ascertained by sphygmograph, etc.). It produced no pain when one grain of a five per cent. solution was subcutaneously injected.

Twenty-six out-door patients were treated, in whom no change in their mode of life was made. They received 400 injections of hydrastinin muriate in five to ten per cent. solution; although some nodules remained, there was no abscess or inflammation, and patients who formerly had ergotin injections pronounced the latter far more painful. A frequent effect was light uterine pain half an hour after injection, sometimes accompanied by a flow of blood. In severe cases of metrorrhagia with-

out anatomical basis, it acted well. In one case of a virgin in whom menstruation recurred every fourteen days, lasting eight to twelve days, it was changed to five and one-half weeks, and a duration of five days. There was no effect in ovarian hæmorrhage of hysteria.

In two cases of pyosalpinx it lessened the congestion and hæmorrhage. In five cases of simple hyperplastic endometritis there was decided improvement; in one case curetting, and in all ergot treatment, had failed. Improvement continued after cessation of treatment, which had lasted two to eight weeks.

The results were less favorable, though not entirely unfavorable, when the uterus was enlarged by hyperplasia of the connective tissues, —chronic metritis.

In nine cases of myomata, the result was decidedly better after a few injections; the hæmorrhage, which had lasted four to eight weeks and remained uninfluenced by ergotin, ceased, and returned at less frequent intervals.

Only four out out of the twenty-six cases remained unimproved. This large percentage of good results is more valuable because the cases were not selected, except those in which ergot or operations had failed. If hæmorrhage due to endometritis or myomata had been selected, the percentage of favorable results would have been still larger.

No evidence of the effect of hydrastinin in labor is furnished, but it is probable that it will be favorable, because it contracts the vessels and uterine pains result. The best time for its use is six to eight days before menstruation, which was rendered profuse by textural changes in the uterus. One-half syringeful (0.05) of a ten per cent. solution of hydrastinin is injected daily; when hæmorrhage begins, a whole syringeful is used until it ceases. In irregular hæmorrhages it is injected every other day.

℞ Hydrastinin,* 1.00,
Aquæ dest., 10.00.

S.—One half to one syringeful once daily.—*Therap. Monatshefte.—Times and Register.*

Cause and Treatment of Vomiting in Pregnancy.—Three organs concur in the production of the vomiting in pregnancy:

First, the uterus, which is at once the seat of pregnancy and the source of special excitation to other organs.

Second, the nervous system (spinal and ganglionar), which transmits excitation to distant parts.

Third, the stomach, which feels in an exaggerated manner the action of the uterine stimulus.

In order to combat the vomiting, not with a doubtful or accidental result, it is necessary to resort to complex treatment, directed simultaneously to the three sources of the disease; consequently the following fundamental indications must be fulfilled:

a. To calm the morbid excitement of the uterus by correcting the abnormal conditions that give rise to it. For this purpose the most satisfactory agents are cocaine, belladonna, morphine, hot vaginal injections, and cauterization or even dilatation of the uterine neck.

b. To diminish or suppress the exaggeration of reflex impressions by the use of chloral, bromides, refrigeration, or perhaps counter-irritation of the spinal region. Moral influences also are not to be neglected.

c. To combat the intolerance of the stomach, relieving it of its local irritation and erethism. Here is demanded absolute diet—abstinence from every sour drink, wine, juice of oranges, lemons, grapes, etc.; use of ice and alkaline mineral waters; counter-irritants,—epispastics to epigastrium; and laxatives to regulate intestinal functions.

In order to insure success in treatment, the stomach should be spared as much labor as possible, and the work thrown upon the intestinal tract.—*Revista de Ciencias Medicas de Barcelona.*

Pepsin Essence and Condurango Wine in Disturbances of Digestion.*—Very properly modern medicine endeavors first of all, in combating disease, to invigorate the prostrated digestive powers and to reanimate those which are already exhausted. For this reason, the later science of medicine has in most affections thrown bleeding overboard; on this ground, practical physicians have longed for a preparation capable, without causing other disturbances, of increasing digestive power to the highest possible degree, for only a vigorous organism is able to resist the attacks of injurious influences, whether they be miasma, bacilli, or cocci.

In pepsin, a preparation has in truth been presented to physicians which is capable of producing the very best effects in respect to the increase and restoration of digestive power. Naturally the preparation must be chemically blameless in every respect, must not be offensiue to taste and smell—which latter in the treatment of women and children deserves special attention. In my capacity as specialist in nervous diseases I have frequent occasion to observe that many are accompanied with torpid and suspended digestion. Chlorosis and anæmia, as well as dyspepsia, are the frequent accompaniments of neurasthenia, of epilepsy, etc.; and even neuralgia not seldom gives rise to severe disturbances of digestion, and in consequence thereof to loss of weight and great debility on account of the violent pains and sleepless nights.

Referring to essence of pepsin, this author says:

A special advantage of this preparation lies in its liquid form, whereby its absorbability is considerably increased in contrast to others in solid form—be they pepsin products manufactured in the form of kernels, or scales, which, to the great prejudice of the invalid, take up at least a small portion of the gastric juice. According to my experience, the preparation used must be chemically pure.

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* Parke, Davis & Co. furnish a pure preparation. The price is still tolerably high, but the quantities used are small.

* Dr. L. G. Kraus, of the Imperial and Royal Hospital, and Specialist in Nervous Diseases, Vienna, in Internationale Clinische Rundschau, January 12th, 1890.

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Original Articles.

TYPHOID FEVER IN A YOUNG CHILD CONFOUNDED WITH TUBERCULOUS MENINGITIS—A CLINICAL LECTURE.

BY DR. A. OLLIVIER.*

GENTLEMEN:—You have just been present at the autopsy of a little girl aged seven and one-half years, who died of typhoid fever (of cerebral form) on the 19th day of her illness. This child, who had never been robust, had had within a year or two an attack of tuberculosis with deposit in the apex of the left lung. I called your attention to her often as we were passing through the ward, and we made repeated examinations, discussing the various probabilities of the diagnosis. I am obliged now to confess, in the light of the autopsy, that we were mistaken in our diagnosis. The course of the disease led us to the conclusion that we had before us a case of tuberculous meningitis: to-day we have found that we were far from the truth, and the reason of our mistake is apparent as we now look back over the history of the case. It is well to make our errors in diagnosis serve as a means of instruction, and therefore I will review the case with you.

This child, as I have said, was 7½ years old; she belonged to a tuberculous family. One of her brothers died of convulsions when a few days old; her maternal grandfather succumbed to phthisis at the age of 40 years; one of her uncles died of the same disease at the age of 2; her father had seven brothers and sisters who all fell victims to meningitis between the ages of two and seven years, and himself presents unequivocal signs of tuberculosis. This little patient was confided to a wet-nurse in the country; when brought home, she had deformity of the bowel and protuberant abdomen; two years ago she had scarlet fever accompanied with acute epistaxis. Lastly, about three weeks ago, she was suddenly taken with aching in her limbs and prostration, was feverish and restless; sleep was disturbed by dreams; there was anorexia and constipation; she at the same time became fretful and impatient, and took no interest in anything.

The day of her admission to the hospital (November 22d) we found her lying on her right side in a listless manner; her face was pale and there was perceptible twitching of certain muscles from time to time. When we spoke to her, she remained silent, turned away in a peevish mood, and tried to cover her face. When we attempted to auscultate the chest, she resisted, and it was difficult to make a satisfactory exploration. We noticed, however, the presence of sibilant râles disseminated over both sides, with harshness of the vesicular murmur at the left apex; on percussion, a little dullness in the same region. Respirations 40; pulse 104; temperature 103.3° F. Tongue coated; abdomen soft, without tympanitis; a diffuse pain on palpation; general cutaneous hyperæsthesia; no sore spots, no tumefaction of the spleen, no albuminuria.

The symptom most apparent was headache. The nights were disturbed, and there were frequent outcries from pain; five grains of calomel were administered.

Nov. 23d.—The patient was lying in a cramped up posture on her right side; the facial aspect was the same. She had vomited after taking the calomel; there has been three or four stools during the day. Temperature, 103.3° F.

Nov. 24th.—Stiffness of the head, and a slight degree of opisthotonos; the headache continues to be severe. Mercurial inunctions over the forehead, temples, parotid regions, and under the maxillaries. A fly blister to the back of the neck; ice to the top of the head; iodide of potassium, at first 5 grains, then 4 grains, three times a day; subcutaneous injections of ⅛ grain of ergotin.

Nov. 26th.—The previous symptoms were more marked; the meningitis line (*tache meningitique*) little pronounced, and manifesting itself slowly. A slight diarrhœa. Pulse, 120, regular; respiratory pauses; some slight epistaxis on waking. We shaved the head, and applied a fly blister to the scalp.

Nov. 29th.—Had a quiet night; no delirium, no outcries; appeared less stupid; still suffered from headache; had still the feverish air of the first day. Less opisthotonos. Pulse, 96; temperature, 98½; respiration, 28. On auscultation, sibilant râles disseminated over both lungs; diminution of pulmonary elasticity; dullness in the left supra-spinous fossa; harshness of the respiratory murmur; prolonged and

* Physician to the Sick Children's Hospital, etc.

blowing expiration. On auscultation of the heart, a very clear *bruit de souffle* with the first beat and at the apex. Nothing abnormal in the vessels of the neck. The only nervous symptoms were photophobia and hyperæsthesia. This improvement was transient, and the little patient succumbed twelve days later. The cerebral symptoms, from which she suffered at the onset, did not disappear until two or three days before her death, when she went into a coma from which she never came out.

At the autopsy we found quite pronounced congestion of the meninges of the cerebrum and mesocephalon; the membranes, however, peeled off easily over all these points. Nothing abnormal in the white substance or basal ganglia.

At the apex of the left lung were several tubercle nodules the size of a pea. Nothing on the right lung.

In the last portion of the small intestine, ulcerations characteristic of typhoid fever, some at the period of elimination, others cicatrized.

The heart was sound. The souffle heard during life was, then, an extra-cardiac bruit.

One main thing was evident at the time of admission of this child. She was suffering from an acute and grave febrile affection. We did not long hesitate to affirm that the diagnosis lay between typhoid fever and meningitis. We could easily refer to the first several of the phenomena observed—the elevation of the temperature, which was slightly greater at night; the anorexia; the nocturnal agitation; the disseminated sibilant râles heard on auscultation; and the furred state of the tongue. None of these symptoms was pathognomonic, nor was the sum of the symptoms. We had not the usual tympanitic distention of the abdomen, the augmentation of volume of the spleen, the lenticular rose spots, the diarrhœa, and the typhoid state properly so called.

You have so often observed this typhoid state in children, that you can readily recognize it. The little patients lie on their backs, indifferent to all that is going on around them; they have not the aspect of impatience; what dominates in the symptomatology is, that persistent stupor which has given its name to an entire group of diseases with which typhoid fever is connected; the responses are slow, but voluntary and intelligible—at least during the first days.

In favor of the second hypothesis we found difficulties and contradictions. At first sight, the child presented an aspect common to children affected with tuberculous meningitis; she was lying, drawn up in cramped posture, on her side, with a decided scowling, peevish air. This sullen, frowning demeanor was that which contributed particularly to lead us astray. All authorities speak of the symptomatic value of change of disposition in tubercular meningitis; children naturally gentle and amiable become cross and fretful, and repel any attention paid to them; on the other hand, children naturally vicious and refractory, sometimes all at once become exceptionally good natured and affectionate. You remember that when we approached the bed of this little girl, she turned away her head and hid it under the bed clothes; it required considerable patience to get her to say yes or no; we felt that all that she wanted was to be let alone.

This sullen demeanor, as we have said, is a symptom of value in tuberculous meningitis; I have sometimes almost relied on it in diagnosis. The twitching of the muscles of the face—the odd grimaces—confirmed us in our views of the case. What came before and what came after only contributed to strengthen the diagnosis. The child was daughter, granddaughter, sister, and niece of individuals that were tuberculous; the disease was inherited from both parents. The mesenteric glands, moreover, seemed to be perceptibly enlarged; and a few days after, we noted other symptoms which were more significant.

As the disease pursued its course, everything tended to draw our attention toward the nerve centres, particularly the cerebrum and pons. The little patient had photophobia, opisthotonos, cutaneous hyperæsthesia; we even obtained a remission of these symptoms by making energetic revulsion to the surface of the cranium.

As you see, gentlemen, we were led to the notion of tuberculous meningitis by serious considerations. The predisposition was there, and we had even proof of the presence of a tuberculous element, for at the left apex we found the signs of tuberculosis in evolution. The course of the disease presented nothing to shake the diagnosis, and it needed the autopsy to tell us with which disease we had to do. Ought we then to change our rules of diagnosis, and deny the importance of the initial symptoms on which I have so much insisted in previous lectures? By no means. The surprises and the exceptions of this clinic, however instructive they may be, prove absolutely nothing against the general rules of semeiology. Because we have mistaken for hydrocephalus a case of typhoid fever with cerebral form concealed under a meningitic mask, it will not do to conclude that all the notions of semeiology thus far acquired, *à propos* of both diseases, are false. I will therefore repeat, and I persist in, what I have before said: In the febrile affections of early childhood, distrust the habitual posture of lateral decubitus—the cramped up posture (*en chien de fusil*); distrust especially the morose, sullen aspect; these are almost always pathognomonic of tuberculous meningitis.

LUPUS ERYTHEMATOSUS.*

BY HENRY J. REYNOLDS, M. D., CHICAGO, ILL.†

I desire to direct your attention to a consideration of the disease known as *lupus erythematosus*. I have here a case which, although it is not exactly typical, illustrates the disease very nicely. But before examining this particular case I think it advisable to speak of the general characteristics of lupus erythematosus.

The word *lupus* is always intended to indicate a disease which is more or less destructive in character. A number of different conditions have been described under the head of lupus, and various names have been used to designate the different so-called forms, such as lupus exedens, lupus vulgaris, lupus disseminatus, lupus verrucosus, etc. It is a question, however, whether these various names indicate diseases which are entirely distinct from each other, or whether they merely signify different manifestations of one and the same disease—as for instance, in eczema the names *pustular*, *erythematous*, *squamous*, etc., indicate merely different manifestations of the same disease. It is quite probable, however, that there are at least two distinct forms of lupus—namely, lupus vulgaris, and lupus erythematosus. It is probable that these two are distinct from each other, and that they are not different manifestations of the same disease; but even this is not a fully settled question. We at times see cases of lupus which seem to lie very close on the border-land between lupus vulgaris and lupus erythematosus; but as a rule we fail to find cases of lupus which merge to any extent from one form into the other. It is probable that all the other lupus manifestations may be properly classed under the one head of lupus vulgaris. So much for the general consideration of the word lupus.

We will now confine our remarks to lupus erythematosus.

The disease is met with in both sexes, though perhaps more frequently in females than in males. It is generally found in adult life, and is comparatively rare, this being the first case we have had at our clinic for a year, during which time we have treated upwards of ten hundred cases of skin disease. The disease is characterized most prominently, as the name would imply, by the erythematous or reddish appearance of the patches. The eruption when first seen is generally in the form of a small reddish macule or maculo-papular lesion, which is most frequently situated on one side of the nose. It advances by peripheral extension of the primary lesion, that is, extension from the circumference or margin of this particular lesion, in the same manner as ordinary ringworm. In addition to this particular mode of development we usually, sooner or later, also have the development of other lesions which go through the same course, the second lesion being perhaps seen on the opposite side of the nose; the cheeks, the forehead, the ears, neck, etc., may also be the seat of new lesions, and more rarely, we may find lesions on the extremities. Now, while these lesions advance by peripheral extension, the margin of the patch presents the most active appearance, being slightly raised and reddened, while the center, after the patch acquires a given size, say of a silver half-dollar, becomes atrophied and paler in color, behaving in this respect similar also to ringworm. We find also a few adherent yellowish scales over the surface of these erythematous patches. These scales when picked off are found to project down into the sebaceous follicles. We never find moisture in the disease, from first to last. There is very little subjective sensation, it being that of very slight itching; this itching is so slight, that for relief the part is rubbed gently with the finger rather than scratched. It is an extremely chronic affection lasting, sometimes, in spite of treatment, throughout life, and is characterized usually by symmetrical distribution, affecting both sides of the face alike, though it is not necessarily so in every case. It is always followed by a smooth, uniform, white, persistent scar, which remains during the life of the individual. There is no appreciable constitutional disturbance. These are some of the principal characteristics of the disease.

The history of this patient is as follows: She is 42 years of age; Bohemian by birth; has resided in this country since nine years of age; is otherwise healthy, and comes of healthy stock, with the exception of the fact that there is some insanity in the family, several brothers and sisters being afflicted in that way; but none have any evidence of disease of this character. She has been troubled with this eruption since nine years of age, just before starting for this country; and I will take occasion to say here, that the disease is more frequently met with in Europe than in this country, and it is a singular fact that the majority of the cases in this country are in those of foreign birth.

The eruption, which is in the form of a single lesion covering most of the left cheek, in this case began as a small macule, as already described, and by peripheral extension has reached its present size. The lesion presents the characteristic erythematous appearance. It is a little more elevated, active, and red, at the margin, than in the center. Notice also

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the scanty, firmly adherent yellowish scales. By picking some of them off, it will be observed that these scales project down slightly into the sebaceous follicles; also the tendency to a white superficial scar towards the center and near the nose, where the disease first developed.

The peculiarities of this case are, that the disease does not assume the symmetrical character, that it is in the form of a single lesion, and that it shows a little tendency to resemble lupus vulgaris in character, as it is slightly papular towards the margin.

As to the ætiology of the disease, it must be admitted very little is known about it. As remarked before, it usually occurs in adult life, though not necessarily so, and seems to occur more frequently in females than in males, and is met with more frequently in European countries than in this. It is by some regarded as due to some sebaceous disorder; some adhere to the theory that it is caused by the local action of some microbe, which finds its way into the cutaneous and subcutaneous structures. And others regard it and other forms of lupus as merely local manifestations of a *scrofulous* or *tuberculous* constitution. While the latter theory seems reasonable enough, in some respects it is not supported by clinical evidence, as statistics seem to show that those afflicted with lupus are, as a rule, free from other scrofulous or tuberculous troubles.

Now, as to the diagnosis, and this is one of the most interesting and important points. In a well-marked case, the diagnosis of lupus erythematosus, for various reasons, is usually comparatively easy to make, it being somewhat like psoriasis in this respect, from the fact that it has its own individual characteristics, that it is not like eczema (for instance), which takes on at times almost every known form of lesion. It is an individual disease, and has its own individual characteristics, and is therefore easy to diagnose. But there are cases, nevertheless, (like in every other disease where we find it essential to consider carefully all the differential diagnostic points which present themselves. In recent cases where the disease has not become developed to any great extent, there is at times a wonderful similarity between this disease and tinea circinata. As between this disease and lupus vulgaris, not only is it interesting, on account of this similar name, to carefully contrast the differential points, but in general appearance and behavior there is a great similarity at times. Other diseases with similar features are, eczema, superficial epithelioma, and acute rosacea.

By carefully studying the following diagnostic tables, a diagnosis may nearly always be made with positiveness:

DIFFERENTIAL DIAGNOSIS.

Lupus Erythematosus.	*Eczema.*
1. Dry.	1. Moist.
2. Little itching.	2. Intense itching.
3. Chronic.	3. More acute.
4. Patches well defined.	4. Patches not well defined.
5. Limited to same location constantly.	5. Not limited to same location always.
6. Spreads by peripheral extension.	6. Does not.
7. Becomes pale in centre of patch.	7. Does not.
8. Always shows the active character at the margin.	8. Does not.
9. Not variable in behavior.	9. More variable.
10. Scales adherent.	10. Not.
11. Thickening due to growth	11. To infiltration.
12. Does not pale on pressure.	12. Pales on pressure.
13. Leaves scar.	13. Never leaves scar.

Lupus Erythematosus.	*Tinea Circinata.*
1. No history of contagion.	1. May have history of contagion.
2. Begins as papule or maculo-papule.	2. Begins as a macule.
3. Does not pale on pressure.	3. Pales on pressure.
4. Border quite raised.	4. Border not usually so raised.
5. Scales few and adherent, and project down into sebaceous follicles.	5. Scales furfuraceous and loose, and do not project down into sebaceous follicles.
6. The nose the common seat.	6. Not so common on the nose.
7. Usually symmetrical.	7. Not symmetrical.
8. Slow, indolent, and very chronic.	8. More active and acute.
9. Always dry.	9. May have moisture from vesicles, and even pustules in certain localities.
10. Microscope does not reveal the parasite.	10. The parasite very readily discovered with microscope.
11. Leaves the characteristic scar.	11. Never leaves scar.

Lupus Erythematosus.	*Lupus Vulgaris.*
1. Generally begins in adult life.	1. Generally begins in childhood.
2. Begins as a single, slightly elevated macule.	2. Begins as several deep-seated papules, which coalesce to form the patch.
3. Little or no destruction of tissue.	3. Always destructive, and sometimes exceedingly so.
4. Smooth.	4. Nodular.
5. Generally symmetrical.	5. Rarely symmetrical.
6. Superficial in character.	6. Involves deeper structures.
7. Never ulcerates.	7. Usually ulcerates.
8. Scar smooth, uniform and superficial, and characterized only by whitish discoloration and no cicatricial contraction.	8. Scar irregular, indicates greater loss of tissue, and characterized by cicatricial contraction.

Lupus Erythematosus.	*Superficial Epithelioma.*
1. Rarely begins after middle life.	1. Always begins in old age.
2. No excoriation.	2. Excoriation.
3. No moisture.	3. Moisture.
4. Scales, which are scanty.	4. Brown crusting.
5. Little or no destruction of tissue.	5. Always destructive.
6. No ulceration.	6. Ulceration sooner or later.
7. No pain.	7. More or less pain.
8. Generally symmetrical.	8. Not symmetrical.
9. Patches generally multiple.	9. Generally single sore.

Lupus Erythematosus.	*Rosacea.*
1. Never caused by intemperance.	1. Often caused by intemperance.
2. Ears, neck, and other parts, often affected as well as face.	2. Limited to face.
3. No papules, pustules, or dilated blood-vessels present.	3. Presence of dilated blood-vessels, papules, pustules, etc.

Lupus Erythematosus.	*Rosacea.*
4. Dry, yellowish, adherent scales, projecting down into follicles.	4. No scales.
5. Though it rarely appears before adult life, it may do so.	5. Never appears before adult life.
6. Always same.	6. Variable — better and worse.
7. Always followed by smooth, white, superficial cicatrix.	7. Never leaves scars.

Pathology.—A word as to the pathology. There is, as already intimated, a deposit of abnormal tissue in the part affected—a "*new growth.*" We make a distinction between the word growth and hypertrophy, meaning by the former, simply a deposit of abnormal tissue. There is also some exudate in the tissues, and some new blood-vessels, etc.

Treatment.—As the disease is necessarily associated with, or dependent upon, perverted nutrition of the part, the indications are, to employ remedies which tend to correct this, or to regulate its function by stimulating the physiological afflux of blood; and for this purpose a number of remedies are used, such as various preparations of sulphur, pyrogallic acid, chrysarobin, various caustics, etc. For the present, we will instruct this patient to bathe the face at night with hot water, which will stimulate the activity of the affected parts, and have a tendency to produce absorption of any exudate that may be deposited in the tissues. After she has bathed the affected parts with hot water, we will have her apply green soap, being careful at the same time not to do anything to create too much irritation, because too active stimulation is rather injurious than beneficial. Only sufficient should be applied to be slightly stimulating. If this does not irritate the part too much, it may be allowed to remain on all night. We will then, next day, keep the part dusted with impalpable boracic acid. This treatment may be changed from time to time, as circumstances seem to indicate.

As regards the prognosis, it is always doubtful as far as a cure is concerned. It is an extremely chronic affection, and may continue to exist throughout the lifetime of the individual in spite of all treatment, as there is no specific line that offers any assurance of a cure.

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THE ARTIFICIAL DRUM-MEMBRANE AS A CURATIVE AGENT.*

BY H. N. SPENCER, A. M., M. D., ST. LOUIS, MO.†

Attached to a paper read by the writer before the International Medical Congress of Philadelphia, 1876, entitled: "The Function and Utility of the Artificial Drum-Membrane," were these conclusions among others: 1. "Of the various forms of artificial drum-membrane in use, the cotton pellet is preferable for its greater simplicity and easier introduction, for comparative safety in its employment, and for the greater uniformity of its effect. 2. It has an advantage over all other forms of artificial drum-membrane in that, to the considerations named, there may be added its value as a means of treating the tympanum; *and this therapeutical use of the artificial membrane has a great future in otology.* The present paper is submitted as a contribution towards the fulfillment of this latter prophecy. It may not be considered out of place to state briefly the conditions which are regarded as affording a warrant for the employment of the artificial membrane. This appears to me to be of special importance, and a point that should be emphasized by the profession in view of the fact that cures for deafness in the form of "*patent improved cushioned ear-drums,*" etc., are being extensively advertised over the country. As physicians, we understand that the use of the artificial membrane presupposes the absence in the normal membrane of capacity to perform part in the transmission of sound by reason of solution in its continuity; or from some disturbance in the relation that it sustains to the membrane of the oval foramen through the ossiculæ auditus, as in a locked, or a relaxed, or a severed articulation. It is conceivable that such a disturbed relation might exist where the drum-head has been partially destroyed, and reproduced, or even where there has at no time existed an opening. According to my observations, however, this is only theoretically correct. I have never taken notice of a case in which the hearing was increased by the use of the artificial membrane where an intact drum-head existed—not even where a production of a substitute for the drum-membrane has occurred.

The artificial membrane has fallen very much into disuse, and if recent otological literature should be consulted, it will be found that it is rather held in disfavor. The views expressed at the time the International Medical Congress was held in Philadelphia, 1876, may be regarded as fairly reflective of opinion today. To quote from the article referred to, which appeared in the published Transactions of the Congress, p. 984. "Lucæ says: It is well known that in a continuing chronic suppuration, the artificial membrane improves the hearing in a high degree; yet it irritates and retards the cure of the otorrhœa, so that it would appear more rational to entirely abstain from its use, and principally to direct the attention to controlling the suppurative process. I have, therefore, in my practice, restricted myself in the use of this appliance to those very rare cases in which it effects a marked im-

* Read before the North Texas Medical Association, Paris, Texas, December, 1889.

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provement in the hearing, without at the same time producing any irritation whatever.

Schwartze says: "As a general thing, I may state that, in my experience, the artificial membrane is only in rare cases to be used as a means of improving the hearing. In most instances the improvement is not so considerable that the patient will bear the trouble and inconvenience which necessarily attend wearing it; and, continued for a little while, it is soon thrown away."

J. Orne Greene says: "I must say that my experience with them is not brilliant; occasionally, in very rare cases, they have improved the hearing, but even in these they are often not well borne."

Knapp says: "My own experience with artificial drum-heads has been so unfavorable that I hardly ever try them now."

Allow me to cite, in connection with these views, from equally high authority of more recent date. Dr. Buck says: "I have never seen more than four or five cases in which Toynbee's artificial drum-membrane, or *some substitute* for it, materially increased the acuteness of the patient's hearing. At the same time I must confess that my lack of faith in its efficacy has led me to test its virtues in comparatively few cases."

The cause of this little use of the artificial drum among aural surgeons, I am persuaded, has been due to the form that has been employed, and to the fact that it has been used merely to better the hearing, without regard to conditions of safety where such an appliance is to be worn for an indefinite length of time. All those contrivances made of rubber, moistened with any fluid, will not be tolerated, save in very exceptional instances, and then only for a short time. Moisture has always been regarded as essential where cotton-wool is employed, and glycerin is generally added to the fluid used in order to prevent it drying too rapidly. This must have a prejudicial effect, even where cicatrization has been complete, and sooner or later leads to recurrence of suppuration.

I now desire to present the artificial membrane in a new light as a therapeutic agent. There is a certain class of suppurative troubles, with which every one who treats diseases of the ear is familiar—cases of long-standing which are healed only to break out again. The mucous membrane of the inner wall is pale and thickened. The discharge very frequently is only slight. The opening in the drum-head varies much in size; sometimes large, it is sometimes also comparatively small—but is a persistent opening. The impairment of hearing varies from being scarcely perceptible, to a deafness of very great degree. Experience with this form of suppurative trouble usually has the effect to make a physician cautious in giving a prognosis, even if it does not actually lead him to discourage the patient from treatment.

It is in this class of cases that I have been led to employ a dry medicated artificial membrane. The successful result obtained in quite a large number of cases during a period of observation extending to nearly two years, has been most gratifying. The membrane is prepared by taking a small bit of absorbent cotton, and agitating it in finely powdered boracic acid until the powder is thoroughly incorporated—filling the fibre interstices. Dusting very lightly to remove an excess of powder, it is inserted and carried to the fundus of the canal by means of the angular forceps. The final disposition of it is best affected through use of the silver probe.

I cannot better define the effect than by presenting cases, and have selected two which will, at the same time, it is believed, illustrate the limitation of this mode of treatment.

It is unnecessary to state, on the one hand, that the case must be an uncomplicated one; or on the other, that in small openings with an absence of discharge, it is not to be used where some other means—*e. g.*, Blake's paper disc—might be employed to effect closure of such a perforation.

CASE 1.—E. P. F., aged 33 years. Ears have discharged since five years of age—that is for 28 years—with few and only short intervals of cessation. Came first under my care in the winter of 1876. The right drum membrane was perforated in the segment posterior to the manubrium (centrally). On the left side all the lower portion of the membrane was destroyed. Discharge from both ears profuse. The hearing was impaired to such an extent that the patient, naturally of a lively disposition, and having brothers and sisters of this inclination in a marked degree, was morose and disinclined to enter into social life.

The profuse discharge was referred to a cold; the patient stated that while the discharge had been for the most part continuous, it was not usually great in amount; no offensive odor attached to the trouble.

The case was treated in the usual way and with the common result. The discharge ceased, but the openings in the drum-heads remained, and the hearing was but slightly, if at all, improved.

Mr. F. returned to me in the winter of 1887 and 1888, after a lapse of 11 years. He stated that he came at the solicitation of friends rather than from any encouragement founded upon former experience in treatment—that his ear only continued to be free from discharge for a few months, after which things went on with him about the same way as before, and he was entirely without hope of ever being better. I found very little change in the

appearance of the membranes. The opening on the right side was slightly larger. On the left the remnant of the membrane posterior to the manubrium had suffered some loss, and the opening had extended somewhat into the posterior-superior quadrant. The discharge was slight. The cavity tissues were pale. I began treatment with the use of the artificial membrane prepared in the manner that I have described. They were placed in both ears, and had the effect to improve the hearing in a very marked degree.

The patient left the office in a much happier humor than when he came. The day following, I found the discharge considerably increased. On the third day there was still no diminution in the discharge which had assumed a more purulent character. Always careful to dry the tympana with absorbent cotton, I persisted in the use of the artificial membrane. This the patient assented to, regarding the discharge as a matter of not the slightest importance so long as he might have the advantage of improved hearing. On the sixth day the pellet was removed from the right ear, only wet on the face of it that had been presented to the cavity. The next day it was found to be entirely dry, and the ear did not discharge afterwards. The discharge on the left side continued for ten days, gradually growing less, however, each day after the fifth or sixth. At the expiration of this time the artificial drum membranes were only used to improve the hearing, and the length of time that they were allowed to remain was gradually extended to a week and even ten days.

They were still treated with the boracic acid powder as necessary to their efficiency, rendering the pellet softer and more adjustable.

After a few weeks the opening in the right membrane was observed to be much smaller in size. The reproduction of membrane continued under the stimulus of the appliance that was worn, and finally closed entirely. The use of the artificial membrane was then discontinued. The hearing on this side was now sufficient for the whisper voice six feet distant, and no difficulty with his hearing was experienced either in his business or social relations. He continued to have the pellet introduced on the left side, at irregular intervals, for a year, when the regrowth of the membrane on this side also became established, very much to my surprise. The hearing of this ear, while much improved, is not so good as that of the other, owing probably to adhesions and tissue changes which fix the conducting apparatus.

Case 2.—Miss M. D , aged 23 years. About the first of March, 1888, after an acute inflammation of the tympana, her ears began to discharge, and continued to do so up to the time of application for treatment, March 12th, 1889. The discharge from the left ear was more profuse, and was quite offensive.

Deafness had developed within the past few months, until it was very embarrassing, and the voice was not heard unless raised to a much higher pitch than was required for ordinary conversation. The pus was removed from the external auditory canal and middle ear, on each side, with careful mopping, using absorbent cotton and the cotton-holder. Quite a large perforation was found on the left side in the posterior superior quadrant, at the upper margin of which was presented a mass of granulation tissue half the size of a pea. The polypus was removed, and absolute alcohol instilled into the ear. The next day the discharge was very much less, and the disagreeable odor gone. The base of the growth showed much improvement, with no appearance of a disposition to grow again. The alcohol was re-applied. On the 14th of March, the discharge was slight, and the appearance otherwise favorable; I applied the artificial membrane, treated with boracic acid. On the same day, I placed the membrane in the right ear. The drum-head on this side had suffered more extensive destruction; the lower half of the membrane was swept away, and, with a greatly retracted handle, presented the appearance of complete loss. There was a marked proliferative condition of the inflamed mucous membrane over the promontory. This cavity had received, like the other, three applications of absolute alcohol, with as favorable result. The introduction of the drum-head advanced the hearing at once, so that not the slightest difficulty was experienced in conversational intercourse.

When a test was applied, the left ear showed greater improvement than the right. There was no more discharge from either ear. The artificial membranes were worn until the 1st of May, when they were removed on account of the patient having to return to her home in a distant part of the State. The hearing at this time, even without the appliance, was considered by her as quite sufficient.

Apart from the advantage to the hearing, and regarded only as a method of treatment for suppuration of the tympanic cavity, this plan may be said to be a modification of a treatment by *support*, advanced by the writer in 1882.*

PALMAR ABSCESS.†

BY J. L. BROMLEY, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

To thoroughly understand a palmar abscess, one must have a knowledge of the palmar

* The Mechanical Treatment of Suppurative Inflammations of the Tympanum. American Journal of Otology, vol. iv, p. 179.

† Read before the D. Hayes Agnew Surgical Society.

fascia and the relation it holds to the structures in the palm of the hand. This fascia is sometimes spoken of as an extension of the tendon of the palmaris longus muscle. I think, however, that as this tendon is inserted into the annular ligament, that the palmar fascia is best described as the continuation of the deep fascia of the forearm. At any rate, disregarding its origin, it consists of three portions—a central and two lateral ones—which invest the muscles of the palm in the same manner as the deep fascia does the muscles in other portions of the body.

The central portion is triangular in shape, attached above to the anterior annular ligament, which is itself an accumulation of fibres of deep fascia, and below dividing into four processes; these again subdividing so as to inclose the flexor tendons of the fingers. The two lateral portions inclose respectively the muscles of the balls of the thumb and little finger, or, as is anatomically described, the muscles of the thenar and hyperthenar eminences.

Besides these three portions, we have also two vertical processes going down into the palm of the hand, separating the muscles of the depression of the hand, and those of the thenar and hyperthenar eminences from one another.

The central portion of this fascia is thick and non-elastic, while the lateral portions are comparatively thin.

Owing to the great density of the palmar fascia and its membranous connections to the deeper structures, collections of pus in the palm of the hand are exceedingly dangerous.

From this description, it can readily be seen that we have four localities for abscesses of the palm: 1. Between the skin and this aponeurosis; 2. Under the thenar portion of the fascia; 3. Under the central portion—which is most common; 4. Under the hyperthenar portion.

In the interstices of the various structures of the hand, we have a quantity of connective tissue, which is primarily involved in the majority of cases.

Now, as to the symptoms: One of the most prominent is the deep-seated pain, due to pressure upon the numerous branches of the ulnar and median nerves. It is owing to this irritation we see a contraction of the fingers, which is increased voluntarily by the patient to relax the tension and to relieve the pain. Another symptom that is present is swelling. Having an inflammatory process going on so near the surface, one naturally would expect to see the greatest swelling in this area, but such, however, is not the case, and this is the reason why the young practitioner is often misled.

Owing to the great resistance of the palmar fascia, the inflammatory products are forced upwards beneath the annular ligament along the line of the tendons into the forearm, or else backwards between the interosseous spaces into the back of the hand. Hence, as a result of this, we are apt to find the dorsum of the hand greatly swollen, and œdematous from pressure on the superficial circulation. It is in this way that abscesses often point at the dorsal surface of the web of the fingers.

In the early stage of the trouble, if the hand is examined carefully, a point of extreme tenderness will be observed which is the focus of the inflammatory process, hence, when we wish to incise the abscess, we should always find this spot, as it is here that the contents should be evacuated. Redness in the palm is not a necessary symptom of abscess, owing to the fact that the process is beneath the palmar fascia. However, in the form of abscess occurring between the skin and fascia, we may have redness.

If the process of suppuration is of long duration, it may involve the whole hand, which becomes swollen and œdematous; or it may extend up the the forearm giving rise to intense pain, angioleucitis, (which is an inflammation of the lymphatics), enlargement of the epitrochlear, or, even the axillary glands, due to reflex irritation or from the lymphatics absorbing pus.

Besides these local symptoms we have constitutional ones. Namely, rigor, fever, insomnia, and loss of appetite.

As soon as the diagnosis is made and the point of greatest tenderness found, an incision should at once be made, bearing in mind, at the same time, the relations of the superficial palmar arch and the interosseous and digital arteries.

The line for the superficial arch is a curved one drawn from the point of junction of the thumb with the palm, to the pisiform bone, with the convexity towards the fingers. The line for the interosseous and digital arteries is parallel with the metacarpal bones, and in the space between then. Hence in incising, we should make our incision *over* the metacarpal bone, bearing in mind the position of the superficial arch.

After evacuating the pus, we wash out the cavity with a 1 to 2,000 solution of bichloride of mercury.

Some, after incising, press on the sides of the abscess so as to more thoroughly evacuate, but this is, in the main, deemed pernicious practice, since there is danger of rupturing the delicate capillaries lining the walls of the cavity, giving rise to hæmorrhage and devitalization.

After washing out the cavity, we put in a small drainage tube; this is an important procedure, as it provides for the free escape of pus by keeping separated the dense fibres of the

fascia, as wounds of this fascia gape but little, if at all. We next put on a layer of wet antiseptic gauze, and then what is called an "antiseptic poultice."

This poultice consists of oakum saturated in in 1–1000 solution of bichloride. It is antiseptic, and absorbent, and keeps the part moist. Of course, if we put plenty of gauze on, it would answer the purpose as well, but as these abscesses occur generally in poor people, the additional price of the latter militates against its employment in this way.

This dressing is, I believe, a comparatively new one. I have seen it do good not only in abscesses, but also in carbuncles, and in cellulitis.

After putting on the oakum, we wrap the whole hand in wax paper and put it upon a palmar splint, with the fingers extended, telling the patient to carry the hand with the palm down, so as to favor free drainage. After the wound has healed, we perform massage, so as to prevent adhesions from forming.

If this treatment is followed, the abscess will heal perfectly, and the patient be discharged in about a week.

As may be readily seen, owing to the non-elasticity of the palmar fascia, the old manner of treating by poulticing will not avail much.

If the process of suppuration is not arrested by free incision and drainage, the carpal and radio-carpal joints will become involved, resulting in a pyo-arthritis, and possibly the loss of the hand. As alluded to before, the lymph channels and lymphatic glands may be inflamed as the result of auto-infection. This shows itself in red lines running up the forearm and arm, and enlarged lymphatic glands and tendons, and may go on to suppuration.

PSOAS ABSCESS—IMPACTION OF FÆCES IN COLON—CANCER OF STOMACH AND INTESTINES.*

We have here a curious and yet most instructive case, in which the symptoms, although obscure and apparently trivial, are of such a nature that when a diagnosis is made immediate treatment may be required.

Our patient is a young man, under twenty, rather pale and anæmic, by occupation a nurse, who complains of a vague pain in the back, for which he was admitted to the hospital two weeks ago. This pain has varied its position. At the time of admission it appeared over the spinal cord, a little to the right in the lumbar region, several vertebræs' distance above the pelvis. In a few days the pain disappeared, only to reappear in the vicinity of the right kidney, covering a space somewhat approximating the shape of that organ. He now complains of a shooting pain extending down the right leg, which prevents him from moving it with any degree of comfort or rapidity, so that he lies in bed with the limb drawn up, and is able to turn over only with the greatest effort and pain.

Examination of his body reveals an abdomen so distended as to suggest a search for growths within it; by making the abdominal muscles as lax as possible by drawing up the legs and requesting the patient to breathe as deeply as he is able, I still feel a sense of resistance to the fingers. There is no tenderness over the front of the abdomen, nor any induration at any point; by careful palpation and percussion no liquid or hard mass is found beneath the fingers. The outlines of the intestines can be plainly made out, however, showing they are distended with gas. The liver dullness is above its normal area, not running to the lower borders of the ribs, as is usual: this is due, undoubtedly, to the upward pressure from the distended intestines.

His temperature chart shows the existence of an irregular fever—reaching each day at irregular times 103, 103⅘, 103⅘, falling to 100, or to normal, some time during the twenty-four hours. This maximum of the fever is reached at varying periods of the day, but always at some hour in the neighborhood of night. This fever is then of a hectic type, tending to point to the existence of both inflammation and suppuration. If this process exists at the point in his back where pain is found, the physical conditions which should be demonstrated are: Flatness or at least dullness in place of the normal percussion-note of the intestines at this point; more or less bulging over the affected area.

Commencing at the left, I get the normal note until the edge of the muscles of the spine are reached. At the right, beyond the right kidney, is dullness—even more than dullness, for it is *flat* shading into dullness at the edges; also glancing sidewise at the back is noted a slight distension at the same point. Now that it is positive that inflammation exists, it may be well to inquire what sources of inflammation can exist at this point. In the first place it is well always to examine the urine when pain exists in this vicinity. But the urine in this case has been most carefully tested, showing that nothing normal exists in it. This, while it serves to exclude the kidney itself from suspicion, is rather baffling.

There are two sources of inflammation at this point which would not affect the urine. One is inflammation of the loose connective tissue around the kidney (peri-nephritic inflammation); the other, caries of the side of the bodies of the vertebræ. Peri-nephritic inflammation is due to some definite cause as a blow or cold, and is a rather rare affection. Caries in the

*From Clinic of Prof. Pepper, University of Penna.

vertebræ, unfortunately, is not uncommon, and is due to no apparent cause; it is simply a low grade of scrofulous inflammation that starts most insiduously, and is mostly found in the young. It works along the sheaths of the nearest muscle until it reaches the surface, often at some quite distant point. When found in this position in the spine, it works along the psoas muscle and appears upon the anterior surface of the thigh, when it is called "Psoas Abscess."

What are the probabilities in this case? The insiduous start without traceable cause, the greater frequency of occurrence, the youth of the patient,and especially the existence of pain in the right leg, all point most strongly to caries. The psoas muscle is inserted into the femur, hence anything disturbing its normal condition would tend to find expression in pain referred to the lower limb. Again, perinephritic inflammation, not the result of the extension of inflammation from the kidney itself, is somewhat rare; it has a definite cause, and would not refer pain to the leg, and is less common in the young than the old.

Now regarding treatment, I would not advise the confirmatory plunge of the hypodermic needle, for it simply subjects the patient to a little more pain, and I feel it unnecessary; nor do I believe that aspiration is good treatment, for while it is a clever thing to relieve the patient at once, it is not a cure, and when the sac refills it will be more difficult to determine the exact seat of the abscess—for it must be opened freely at some time, and allowed to heal up from the bottom. Therefore, I will call in the assistance of a surgeon to determine the best method to use in operation.

* * * * * * * * *

I exhibit some post-mortem specimens from a woman 60 years of age, who was, up to a short time ago, a healthy person, with a large number of healthy children. She began to lose flesh and strength; her health began to wane; while in this condition I was asked by her attending physician to see her. I found her emaciated, with red glazed tongue, appetite gone, and extremely weak; no vomiting existed except when pressed to eat; at all other times she ate sparingly but without any emesis. There was no evidence of disease of heart, liver, or lungs; but over the region of the upper abdominal zone was found a large, hard, superficial mass, immovable and unyielding to the fingers; scattered on both sides were smaller, softer, and more movable masses, especially along the line of the transverse colon. There was no constipation. The attending physician regarded it as cancer of the stomach, with the involvement of deeper glands in the abdomen. I was disposed to be guarded in my diagnosis, for in regard to this very matter I had been taught a severe lesson. Some years ago I was called to see a case, apparently similar to this one. There was, as in this, a row of hard unyielding masses across the abdomen at its upper segment, with loss of flesh and health, and vomiting and constipation. The patient was a public man, who had given up business and prepared to die. We gave the diagnosis of cancer without reserve. In a short time the lumps began to disappear. The man still lives, although his health is gone and he is a confirmed invalid. Undoubtedly, what we felt was masses of impacted fæces in the folds of the transverse colon. Another case, I remember, had a hard unyielding mass in the right iliac fossa. After death, a hard mass of fæces lay in the intestine, distending it far more than I should have conceived possible; through the middle of this mass was a small channel where the softer fæces oozed, and explained the existence of more or less regularity of movement of the bowels.

Therefore in this case I expressed the possibility of fæces simulating the condition found; and massage of the abdomen with sweet oil was ordered. Some of the outlying masses disappeared, with the appearance in the stools of matter, marble-like in constituency. Notwithstanding this treatment, she continued to grow worse, and the bulk of the hard masses remained; only the outer ones were gone. After death, Dr. Griffith found in the lungs some hard yellowish masses of cancerous matter, and likewise in the liver; but in the stomach was a cancerous ulcer 4x7 inches in size. The glands along the lesser curvature were massed in a hard ball, which explained one point that puzzled me greatly. On applying the stethoscope to the abdomen at this place, I got a low *bruit;* on easing the 'scope a little, I found it disappeared; hence it was not an aneurysm; but why so light pressure caused a *bruit*, puzzled me until this condition was discovered at the autopsy. It is evident that the hard mass of cancerous glands made a direct pad between the instrument and the aorta.

CLINICAL NOTES.

PEPSIN IN INDIGESTION.

Says Dr. C. A. Bruegrosman, of Hartwell, Neb.: My youngest son, A. J. B., æt. 28, complained of loss of appetite, restlessness at night, dull headache and pains in the region of the kidneys. I prescribed for him elixir of pepsin in two drachm doses, to be taken after regular meals; and after three days taking of the medicament his appetite increased, and his pains had vanished; on the fifth day he went corn-husking, sound and well.

Pepsinum purum in lamellis I gave in two grain doses after regular meals to a Mrs. A. L., æt. 37, who suffered during a relapse of in-

luenza with indigestion, pains in her stomach, and vomiting; she also has suffered severely during the last ten years with habitual constipation; the second dose checked the vomiting, and the second day she enjoyed an easy evacuation of the bowels with the assistance of the following formula:

℞ Ext. cascara sag.,
Glycerinæ, ää ʒ ss.

One-half teaspoonful morning and night. A week has passed and the lady is cheerfully attending to her home duties.

Pepsinum purum pulvis I have given in two grain doses, to be taken with the regular meals, to a young man, W. F. C., æt. 30, who has been confined to the bed with phthisis since last Christmas; he suffered intensely with pain in stomach; no appetite whatever; constipation. A few days after beginning to take the pepsin his appetite returned, and he is now craving for food and enjoys a good meal. To move the bowels of the patient, I prescribed glycerin suppositories every evening; the first caused an operation in 5 hours and 40 minutes, the second in 1 hour and 26 minutes, the third in 3 hours and 15 minutes, the fourth in 4 hours, and the fifth in 1 hour and 10 minutes.

CHLORO-ANODYNE IN COUGH.

In regard to chloro-anodyne, I would say that it helped myself in a severe cough. I returned from an eight mile visit in an open wagon a few nights ago, and was taken with a severe attack of convulsive cough; the common remedies at hand would not check it, but 3 drops of chloro-anodyne, in water, gave immediate relief; and two more doses at intervals of 15 minutes checked it entirely. I slept sound all night, being relieved, and enjoyed a good breakfast.

PICHI.

Mrs. M. F., æt. 54, complained of severe pains in liver and kidneys, a burning sensation when passing urine, and a penetrating pain in the pit of her stomach. I prescribed fluid extract pichi, one tablespoonful 4 times a day with hot water, which was effectual.

H. K., æt. 20 years, had been afflicted during 11 months with pains "in the right side and lower part of the back," and was now suffering with lameness in the lower extremities. Prescribed fluid extract pichi in tablespoonful doses four times daily with hot water. To-day he is hauling corn to the elevator in good spirits.

Mrs. J. McC., æt. 31 years, suffered with severe pains in stomach and in bladder. Fluid extract pichi restored her to her usual health.

SALIX NIGRA IN OVARIAN AND GENITAL IRRITABILITY.

Dr. E. Wildman of Jenkintown, Pa., writes: Mr. A. H., age 29, had been leading a fast life, his sexual excesses producing irritability of the genital organs, also of the whole nervous system. I used bromides for a short time, but found they caused too much gastric oppression. Placed him under fluid extract of salix nigra in drachm doses, which gave very satisfactory results.

In ovarian irritation it also has proved a valuable remedy.

JAMAICA DOGWOOD.

In cases of insomnia caused by delirium tremens, and neurasthenia caused by intense study, or grief, fluid extract Jamaica dogwood will usually give satisfactory results if used in from one-half to one drachm doses at bed time.

I have seen several bright, intellectual young students, and physicians, mentally and physically wrecked from the use of opium and its alkaloids began for the relief of insomnia, a result that cannot follow the use of dogwood.

Jamaica dogwood is useful in biliary and renal colic; in neuralgic dysmenorrhœa; ovarian neuralgia; also is a good anodyne and antispasmodic in sciatica. I have found it give good results in the latter malady, especially where there was general systemic hyperæsthesia.

GLYCERIN SUPPOSITORIES IN TYPHOID.

Dr. D. D. Howell of Clintonville, Ala., regards glycerin suppositories as one of the best agents in typhoid fever that can be employed. He says: I had five cases of that dreadful disease, and in two I used suppositories to avoid disturbance of the bowels, which were greatly inflamed. In the course of 4 or 6 hours the bowels would move without drastic action, and the duration of time of recovery was twelve days earlier than in those in which I did not use the suppositories.

I am convinced that if we would employ the suppositories as indicated, we would have less trouble than supervenes through the action of the ordinary purgatives; then the stomach might more easily tolerate soups, and other nourishment.

CASCARA SAGRADA IN ABORTION AND CONSTIPATION.

Dr. S. Blackmon of Sugar Hill, Texas, reports as follows: Mrs. A., pregnant three months, was seized with pains indicating abortion, found the bowels had not moved for four days; the pulse excited; breath fetid. Prescribed cascara in 10 drop doses 3 times a day. Twenty-four hours later, as bowels had not moved, I ordered a suppository of glycerin, the pains having ceased under the use of viburnum prunifolium. Third day, free evacuations of bowels. Continued cascara for three days, then ceased, when constipation again super-

vened. Resumed the use of cascara when bowels again became regular.

I believe cascara would have had the desired effect without the assistance of the suppository if I had given it in larger doses; but I feared lest I should produce free catharsis. Have used cascara in other cases with good results.

USE OF LIQUOR SEDANS.

Dr. Frederick H. Little of Muscatine, Iowa, says of this preparation: I have used liquor sedans constantly in my practice, with most excellent results. Have prescribed it in a great number of cases of dysmenorrhœa, both in women, and in girls just beginning their menstrual life, thereby producing painless periods. Have also successfully used it in cases when an uterine tonic was indicated. It is particularly useful in cases of threatened and habitual abortion.

Correspondence.

LISTER'S NEW DRESSING.

Some correspondence of great interest to surgeons, between Dr. J. William White, of Philadelphia and Prof. Joseph Lister, relating to Lister's New Dressing, was recently published in the Medical News. Inasmuch as it presents in detail the claims made for this new dressing and its mode of application, in Lister's own words, we reproduce it for the benefit of our surgical readers.

Dr. White wrote Lister asking if he had made any changes in detail, or in his method of preparing the gauze, since he explained them in July of last year. The accompanying letter which was received in reply should be read in conjunction with the papers in The Lancet to which he refers. All practical surgeons in this country are interested in knowing the most recent views on antiseptic methods of the man who has not only revolutionized the principles of wound treatment, but is now devoting himself with unremitting labor to the elaboration and perfection of its details.

LYME REGIS, DORSET, January 7th, 1890.

MY DEAR PROFESSOR WHITE: I have to ask your forgiveness for having so long delayed answering your inquiries regarding our antiseptic methods.

The papers which I have lately published on the cyanide dressing (see The Lancet of November 9, 1889, and January 4th of this year) will both supply the answer to some of your questions, and serve also to explain the difficulty I have had in finding time for correspondence. I felt it urgently incumbent upon me to publish the cyanide dressing; but, at the same time, I was very anxious to produce it in as useful a form as possible, and the labor connected with the successive improvements that suggested themselves was more than enough to occupy any spare time at my disposal. The preparation of the gauze will now present no difficulty if you obtain from Messrs. Morson, Southampton Row, London, W. C., the *dyed cyanide*, and follow the instructions given at the end of my second paper.

You will observe that the gauze, after being drawn through the liquid in which the cyanide is diffused, is hung up to drain until it ceases to drip, and then is placed in a folded sheet to remove the still redundant moisture. The precise time for which it remains in the sheet is a matter of no material moment; about half an hour being adequate to leave the gauze moist without being inconveniently wet. Immediately over the wound is placed a portion of the gauze, say about sixteen layers thick, washed in a solution of carbolic acid to get rid of the bichloride of mercury in the dressing in contact with the wound. I prefer for this purpose one part of carbolic acid to twenty of water, as safer than any weaker solution.

A very pure acid should be used, because, if impure, it is not completely dissolved, and the undissolved particles are needlessly irritating to the surgeon's hands. When you change a dressing, you apply this piece of gauze over the wound before you proceed to clean surrounding parts with the carbolic lotion.

The carbolic acid soon flies off from the washed gauze, leaving nothing in it in contact with the wound but the unirritating cyanide.

By proceeding in this way I have not found it necessary to use a "protective." As to the amount of unwashed gauze to be applied, that will depend upon the the amount of discharge that you anticipate.

In the early stage of a wound, where you expect much sero-sanguineous oozing, it is desirable to use a considerable mass, say an inch in thickness, and extending well on all sides beyond the wound. Further, it is well, where free discharge may occur, to place over the dressing a piece of mackintosh with the caoutchouc side (antiseptically washed) next the dressing. This is for the purpose of preventing the discharge from coming directly through the dressing. It does not, of course, overlap the gauze, nor need it even extend to its edge. Where the part operated on is placed on a splint, as after resection of the knee, the padding of the splint is lined with such a piece of mackintosh.

It is unnecessary to purify bandages or elastic bands that are placed outside of dressings, but if a bandage is used in the interior of a dressing, as in banding a stump next the skin, it is purified sufficiently by soaking it thoroughly with a solution of corrosive sublimate 1:2000. For purifying the skin I use water containing

both 1-20 part of carbolic acid and 1-500 part of corrosive sublimate (*i. e.*, both combined). Or, in private practice, I commonly first wash thoroughly with 1:20 carbolic acid solution, and follow it up by washing with 1:500 corrosive sublimate lotion.

The towels placed around about the seat of operation are wrung out of 1:2000 sublimate lotion, and this is also used for the sponges during the operation. At other times the sponges, after being well washed in water, are kept in 1:20 carbolic solution.

The carbolic solution is also used for purifying the instruments before an operation. At the end of the operation, before beginning to stitch, I generally wash the wound with 1:500 sublimate lotion, and irrigate with 1:4000 during the stitching.

But when I open into a joint, such as the knee, I avoid the use of the strong sublimate solution, which is seriously irritating to the synovial membrane; and in that case I have irrigation during the whole operation with 1:4000. As to rendering wounds aseptic which have been infected, that is, speaking generally, a thing on which you can never reckon; in recent wounds, like compound fractures, the chance of success is, of course, always greater the shorter the time that has elapsed after the infliction of the injury.

If the skin and wound are greasy, oil of turpentine is of great value for cleaning away the greasy dirt, and the use of a nail-brush with carbolic and sublimate solutions, after the turpentine (or without it if there be no special occasion for its use), is very valuable. In most cases where septic sinuses are present, it is simply hopeless to try to extirpate the septic mischief; but very great advantage is gained by washing the cut surfaces in an operation under such circumstances, with solution of chloride of zinc, forty grains to the ounce of water. This is done once for all at the conclusion of the operation, and prevents putrefaction during the critical early days after the operation. The same solution is also used where the wound communicates with a septic cavity, as after the removal of a portion of the tongue, or of a jaw; and under these circumstances it is also useful to apply iodoform to the cut surface after the chloride. In cases in which the specially infected part is of very limited extent, as, for example, where a suppurating strumous gland has discharged without an antiseptic dressing, complete disinfection may often be obtained by applying undiluted liquid carbolic acid, after scraping away the degenerated gland (or other) tissue with a sharp spoon. . . . . Please accept my kind regards, and believe me

Very sincerely yours,

JOSEPH LISTER.

MURDER BY CHLOROFORM.

Editor of the MEDICAL AGE:

In your editorial, "Murder by Chloroform," in a recent number of the MEDICAL AGE, you say: "Scarcely a dozen of these (*i. e.* cases of criminal use of chloroform) have come before the courts, and these were either for burglary or felonious assault, *but never yet, so far as we can ascertain, for murder.*"

You surely forget the murder of Preller in the Southern Hotel, St. Louis, by Hugh Mottram Brooks, better known as "Maxwell." This crime was committed with chloroform, and the latter was detected and isolated two weeks after the murder (the body lay in the room undiscovered, for a week). Brooks fled to Auckland, New Zeland, whither he was followed and arrested by St. Louis detectives, and brought back, tried, convicted and hung. The trial was a *causa celebre*, the case being carried from court to court; and when the Missouri Supreme Court affirmed the judgment, the United States Supreme Court was appealed to, and granted a stay of execution. After examining into the case, however, the U. S. Supreme Court found no cause for interference, and the Supreme Court of Missouri again was tried, but in vain. As a last resort, the British Home Office was induced to interfere, and Minister West laid the request before Mr. Bayard at Washington, who in turn requested Governor Moorehouse, of Missouri, to grant another stay or respite.

Brook's father is a school teacher of high standing in England, and a Mason of high degree. Money was spent lavishly, and the most tremendous pressure was brought to bear on the Governor. A sickly sentimentality had enlisted the women in behalf of the cold-blooded little scoundrel (a more heartless, conceited, and utterly depraved wretch, I never came in contact with), and even the ladies of the Governor's family were influenced by the tears and pleadings of Brooks' mother and sister (who came from England to plead for him), to lend their weight to the appeal. The Governor came to this city, and gave the subject two entire days of solitary investigation (he had previously given much attention to the case), and finally saw no reason to interfere.

Yours fraternally,

FRANK L. JAMES.

Ed. St. Louis Med. and Surg. Jour.

Dr. F. E. Stewart Honored.—Dr. F. E. Stewart has been elected Professor of Pharmacy in the Powers College of Pharmacy, Philadelphia. He will also continue to hold the position of Demonstrator of Materia Medica and Pharmacy at the Jefferson Medical College.

The Medical Age.

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Editorial.

THE ACTION OF CLIMATES OF ALTITUDE IN AFFECTIONS OF THE CHEST.

The report of Leudet to the International Congress of Hydrology and Climatology, has been recently published. It is an able and exhaustive production, whose results we can only summarize.

Leudet starts from the conclusion which no one will dispute, that neither the bronchitic nor the phthisical ought to live in confined air; that both should habitually breathe the pure and vivifying air of out-doors. If the air is the *pabulum vitæ* for the well man, *a fortiori* it is for the valetudinarian.

The low density of the air is the first and most important factor of the climates of mountains. The oxygen is rarefied, its tension is lessened; what will result from this for the well man and for the sick man? A sort of abstinence-regimen, which anæmiates the former, which calms and fortifies the latter. Jourdanet calls this condition due to rarefied air, *anoxhæmea*, and declares it to be antagonistic to phthisis pulmonalis in that it lessens the activity of the organic combustions. The elevated station, moreover, furnishes an atmosphere which, if not absolutely deprived of microbes, is inimical to their growth and multiplication, and when the consumptive seeks a climate of altitude, he places himself in the best possible environment for the successful struggle between the cells of his organism and the "virus ferment," the morbific bacteria which have grafted themselves upon and are destroying his tissues.

Apart from the density of the air, which is, and which must remain the specific conditions of altitudes, there is nothing characteristic in the other qualities of the atmosphere of mountains. The purity of the air, its dryness and its immobility, its clearness and its freshness, are met with by the seaside and in vales as well as on the mountains. These are commonplace qualities whose hygienic and therapeutic value is as ill-defined as it is difficult to appreciate.

If the air is dry and keen in the mountains of Switzerland, at the same altitude it is damp and heavy in the Pyrenees. A moist and warm atmosphere may have as beneficial an action on the bronchitic and consumptive as a limpid, clear and cold atmosphere. Nothing is more variable, nothing is more inconstant, than the meteorology of the mountains; nothing is less absolute than the medical indications derived from the thermometric, barometric, hygrometric, or anemological averages and probabilities. All the factors of a climate represent themselves immediately on the apparatus which enregisters them, but a patient does not conform to external influences like an instrument of precision. A phthisical patient, indifferent to-day to a feeble elevation of the temperature, or to an intense solar radiation, may be badly impressed to-morrow by these same agents, and the reactions which he manifests, instead of being salutary, will prove morbid.

Leudet insists at some length on the multiple forms of pulmonary phthisis, on its periods of acuteness or of calm, which alone, in the treatment of the disease, command the prophylactic and curative indications. There are two great classes: The irritable, the congestive and the hæmoptoic, on the one hand; the indolent of temperament, the victims of catarrhal and slow suppurative processes, on the other. Those who belong to the first class (the feverish and irritable) will be injured rather than benefited by an exciting climate and a perturbing hygiene, while those who are suffering from the inactive and slow forms will find themselves speedily made better by such influences. The former need to be protected rather than fortified.

Leudet terminates his report by the following conclusions:

1. The climates of altitude have, on the affections of the chest, an incontestable action; all powerful when it is a matter of *preventing;* relative or *nil* when it is a matter of *curing.*

2. When the disease is infectious and virulent, they are great modifications of the culture soil (*terrain*); they do not touch the germ; they do not destroy the ferments.

3. Their *immunity* relative to pathogenic germs is neither real nor absolute; it is accidental and contingent.

4. Their vivifying and tonic action seems to depend on multiple conditions, some of which, like the freshness and the purity of the air, its transparency and its immobility, have an incontestable importance, and of which, one only, the rarefaction of the air, is really specific.

5. The *delicate* of bronchi and of lung, those menaced by and predestined to phthisis, will derive a decided benefit from a prolonged sojourn on high table-land and mountainous regions, providing that they are not irri-

table, and that they have been methodically trained to live in the climate of mountains.

6. The confirmed tuberculous may, with advantage, pass the winter in the Sanitaria of Switzerland, provided that they are neither congestive nor hæmoptoic, and that they are strong enough to devote themselves every day to gymnastic exercises which require a keen and bracing air.

HOW TO ADMINISTER BROMIDE OF POTASSIUM.

A writer in the Semaine Medecale tells young practitioners how to administer bromide of potassium in order to obtain the best results in epilepsy and other neuroses where this remedy is indicated.

It is best to begin by a scruple or half a drachm; the latter dose should never be exceeded at the outset. At the end of a fortnight or a month, according to the susceptibility of the patient, the dose may be increased by seven and a half or fifteen grains, and it may be progressively increased every month in this ratio. We may thus, in the adult man, attain to an average of 90 to 145 grains a day of the salt; *i. e.*, 30 to 45 grains *ter die*. It must be borne in mind, however, that this dose should only be reached after a gradual increase for from three to six months; it is the maximum habitual dose. Legrand du Saulle has cited the case of one of his patients who, at the end of twenty-six months of treatment, had arrived at the quantity of 280 grains of the bromide a day. This patient was an epileptic, and used to have several fits daily; under the influence of these enormous doses of bromide he was delivered from his attacks.

This would hardly be a good example to follow.

A daily quantity of one drachm or a drachm and a half in the adult is hardly sufficient to prevent fits, while this dose is amply sufficient for women and young girls.

The physician should carefully prescribe the rules of administration of this medicine, and not trust the patient to increase or diminish the dose according to his caprice. He should give the patient to understand that the success of the treatment depends on his perseverance. Legrand du Saulle calls bromide *the bread of the epileptic*. The bromide treatment is a long treatment, and the only safe and sensible way is to go slowly and surely.

It may not be known, that in testing pepsin by means of egg-albumen, that the former is rendered inert if added to the albumen before the latter is acidified. Egg-albumen, alone, almost invariably presents an alkaline reaction, that is fatal to the formation of peptone.

Book Notices.

Spinal Concussion. By S. V. Clevenger, M. D. Cloth. 8vo pp. 338. Price $2.50. F. A. Davis, Publisher, Philadelphia.

For more than twenty years this subject has occasioned bitter contention in the courts. Dr. Clevenger's book is an attempt to review the whole dispute judicially, and the outcome of five years' special study and experience in legal circles, clinics, and hospital and private practice. He has in this work attempted to arrange all that has been done by observers since the days of Erichsen and those who preceded him.

The different, and sometimes antagonistic views of many authors, including Erichsen, Page, Erb, Westphal, Abercrombie, Astley Cooper, Boyer, Charcot, Leyden, Rigler, Spitzka, are fully given; and the small, but valuable work of Oppenheim is fully translated, and constitutes a chapter by itself. There are abundant illustrations, particularly for electro-diagnosis, and to enable a clear comprehension of the anatomical and pathological relations, though these are by no means new or original.

Other special features are: A discussion of the controversy concerning hysteria; and the author's original view that the lesion is one involving the spinal sympathetic nervous system.

The Psychology of Attention. By Th. Ribot. 12mo.; cloth; pp. 328. Price 75 cents. Published by the Open Court Pub. Co., Chicago, Ill.

Any contribution from the pen of the distinguished editor of Revue Philosophique—who is also Professor of Comparative and Experimental Psychology at the College of France—is always acceptable.

Psychologists have given much study to the effects of attention, but very little to its mechanism. The latter point is important, for it is the counterpart—the necessary complement of the theory of association—and hence it alone is investigated in this little volume. To criticize the work fairly it would be necessary to reproduce whole chapters; hence we can only say that it is worthy of careful perusal; and once read, it will be re-read with new interest and increased profit. It is rarely an abstruse subject is handled so concisely and clearly, and its treatment will prove of especial value to the alienist and neurologist as well to the psychologist.

Medical and Surgical Monographs. Vol. VI. No. 1. January, 1891. Paper, 8vo; pp. 300. Price, $1.00. Published by Wm. Wood & Co.

The present number embodies the following: "Neuralgia—Its Ætiology, Diagnosis, and

Treatment," by W. R. Gowers, M. D.; "The Progress of Diseases of the Heart," by Prof. E. Leyden; "The Sputum: a Contribution to Clinical Diagnosis and Practical Examination of Tubercle Bacilli," by P. Kaatzer, M. D.; "Hypnotism—Its Significance and Management," by Dr. August Forel; "The Forms of Nasal Obstruction in Relation to Throat and Ear Diseases," by Greeville Macdonald, M. D. The last-named paper is especially commendable.

Notes and News.

The Malarial Hæmatozoön.—In an editorial in the Medical News, Feb. 11th, is presented the following resumè of facts concerning the malarial hæmatozoön:

1. The parasite has been found in all countries, in the blood of those affected with the malarial poison, and the numerous descriptions of its appearance are remarkable for their identity.

2. The parasite has never been found in the blood of those not affected with the malarial poison.

3. The development of the parasite is intimately connected with the production of melanæmia, which is the characteristic malarial lesion.

4. The salts of quinia cause the parasite to disappear from the blood, and this takes place synchronously with the cessation of the fever.

5. Malarial disease has been transmitted from one person to another by injecting into the veins of a non-malarial individual a small quantity of blood containing the parasite.

The mode of life of the malarial organism, outside of the human body, is as yet unknown, and it seems probable that its aspect under such circumstances is different from that which it presents in the blood of man. It is possible that, in one phase of its existence, it may be the parasite of some other animal or of a plant, and Laveran suggests the possibility that the mosquito may play a rôle in its transmission.

The manner in which the hæmatozoön gives rise to the symptoms of malarial poisoning, is a question of great interest. Laveran believes that its action is both vital and mechanical. In virtue of the former it destroys the red corpuscles, and the extent of this destruction is shown by the anæmia, and the accumulation of pigment in the vessels and tissues.

The nervous symptoms—such as chill, fever, headache, etc.—are due to irritations of the cerebral nervous system.

The failure of all attempts to cultivate the malarial organism has been advanced as an argument against its parasitic nature, but no better success has attended the culture experiments in the case of the filaria sanguinis.

The hæmatozoön malariæ does not belong to the class of schizomycetes, and therefore it is not surprising that its behavior is different from that of micrococci and bacilli.

New Laboratories of the London Colleges.—The announcements which have appeared in the general press respecting certain innovations at the Examination Hall of the Colleges of Physicians, and of Surgeons, are premature. There can be no definite arrangements in the laboratories until a Director is appointed. Meanwhile, however, we understand that several very capable gentlemen have already informally announced their intention to become candidates for the post of Director of the new laboratories erected by the Royal College of Physicians and the Royal College of Surgeons, on the Thames Embankment. The appointment will be made for one year, but the Director will be eligible for reappointment for six years; after this period he could only be continued in office by a special vote of the two Colleges. The salary of the appointment will not exceed £500 a year. There is a strong feeling that the appointment should not be restricted to Fellows or Members of the Colleges, but that the best available Director should be chosen irrespective of the source from which his diplomas are derived. The laboratories, under able direction, ought to become a great centre for the scientific study of medicine in London. A great part of the space will be devoted to the pathological laboratories; but the wise decision has, at the suggestion of the Royal College of Physicians, been arrived at to set apart a room for use by members of the medical profession holding a diploma from either of the Colleges, for the purpose of short clinical investigations.—*Lancet.*

The Pharmacopœia of 1890.—In an editorial article in the March, 1890, number of the University Medical Magazine, under the above title, the writer thus discusses the necessity for standardized preparations:

"It has been evident for many years to those who are conversant with the manufacture of pharmaceutical preparations, that something should be done with the view of assuring a constancy in the strength of fluid extracts and tinctures. It has been found within the last few months, upon accurate analysis, that many of these liquids vary as much as from 1 to 20 per cent. in the active principles which they ought to contain. The consequence of employing such remedies of doubtful power are, to say the least, somewhat disquieting to the medical mind, for it is to be remembered that without a chemical assay it is virtually impossible for the buyer of the raw drug to judge as to the medicinal power of the leaves or roots that

may be sold him, since it has been proved that crude drugs possessing a remarkably good appearance frequently contain very minute portions of the alkaloids which give them their medicinal power.

"What measures will be taken by the Pharmacopœial Convention in regard to this crying evil, we know not. The subject is one beset by so many difficulties that its solution will require much thought and care."

Sexual Precocity.—Douglas, in New York Medical Journal, reports a case in a boy, four years and three months old. The penis, scrotum, and testes are of the size of those of an ordinary adult, the penis measuring full three inches in the flaccid state; the prepuce rests half retracted over the glans. The pubis is covered with soft, silky, brown hair. He does not appear to manifest any fondness for the opposite sex, and yet is addicted to masturbation. His erections are vigorous. The emission does not contain spermatozoa. The boy was not in any way unlike other children up to three years of age, at which time, after wading in a spring branch for several hours, he was seized with a violent chill, followed by extremely high temperature and active delirium. He was quite well again in four days. Some few weeks after this the mother noticed the change in his voice, and the gradual development of the sexual organs followed. It was first noticed that he masturbated some six months ago. A probable solution of the case is, that during the short but severe fever the brain sustained some positive organic lesion, which has since acted as an irritant to the sexual nerve-centres.

Grave Desecration.—The New York Herald says: Dr. W. E. Grant, Demonstrator and Dr. J. T. Blackburn, Assistant Demonstrator of Anatomy, in the Kentucky School of Medicine of Louisville, were caught in the act of grave robbing at New Albany, Indiana, on the night of February 24th. The janitor of the College lost his life in the fray that resulted in an attempt to arrest. A Dr. Graham, also of Louisville, is supposed to be implicated.

The indignation of the people of New Albany is increased by the fact that the graves desecrated were those of two well known citizens. Owing to the fact that the body of President William Henry Harrison was stolen from its grave, the Indiana Legislature enacted a law dealing very strictly with grave robbers, as follows:

"Any person who shall, without due process of law or the consent of the surviving husband or wife or next of kin of the deceased, or of the person having control of such grave, open any grave for the purpose of taking therefrom any such dead body, or any part thereof buried therein, or anything interred therewith, shall be deemed guilty of a felony, and upon conviction thereof shall be imprisoned in the State prison for not less than three years, or more than ten years."

A Laudable Project.—Marion Harland, the friend and helper of women everywhere, has taken up the work of restoring the ruined monument marking the burial place of Mary the Mother of Washington. She says truly—in her appeal to the mothers and daughters of America to erect a fitting monument to her who gave Our Country a Father—that "the sun shines on no sadder ruin in the length and breadth of our land, than this unfinished structure."

The publishers of The Home Maker, of which Marion Harland is the editor, offer, as their contribution to the good cause, seventy-five cents out of every annual subscription of two dollars to the Magazine, sent to them during the next six months. Every such subscription must be accompanied by the words "For Mary Washington Monument."

The offer is generous, and should meet with an enthusiastic response.—*Anti-Adulteration Journal.*

Anecdote of Professor Gull.—A correspondent of the London Times relates the following anecdote, which shows that the late Sir William Gull possessed a kindness of heart only rarely met with in this money-getting age: Some years ago a gentleman, whose failing health was coincident with failing fortune, consulted Gull. For a while the remedies were of use, but one day the patient presented himself looking so much worse that Sir William had to seek for a special cause. The explanation was adequate: "I have been obliged to call my creditors together." Whereupon the great physician wrote a cheque for all past fees—about thirty guineas—and, putting it into his patient's hands with the other prescription, said simply: "Perhaps that will help you more than the medicine today, but pray take them both."—*Med. Record.*

A Conference of Medical Colleges.—The medical colleges and schools of Maryland, in a conference held in Baltimore, February 7th, issued an appeal to all the medical colleges of the United States, asking them to send delegates to the approaching convention of the American Medical Association at Nashville, Tenn., with a view of effecting a reform in the methods of medical institutions in vogue in this country. The following subjects are considered as most likely to come up for discussion: 1. Three years' course of six months' session. 2. Graded curriculum. 3. Written or oral examinations. 4. Preliminary examination in English. 5. Laboratory instructions in chemistry, histology, and pathology.—*Medical Record.*

A Synthetical Carbolic Acid.—The anilin and soda factory in Ludwigshafen has introduced a so-called chemically pure carbolic acid made by synthesis. This product has a melting point of from 41–41° C. It is distinguished from the ordinary carbolic acid derived from tar, by the absence of the pungent odor which characterize the latter, and which is due to impurities present in the tar. Aside from this advantage, it has been found by Garré that it is much less irritating to the skin than the ordinary article, and much less apt to produce chaps and eczema. A very convenient form of the new article has already appeared in the shape of compressed tablets of the pure acid containing 1 and 2.5 grammes each.—*Corres. Bl. für Schw. Aertze.*

Searching a Medical College for Anatomical Material.—The Tennessee Medical College has lately been subjected to several searches by officers armed with search-warrants for the discovery of bodies alleged to be under dissection. Becoming tired of the annoyance, the College has applied for an injunction against the justices issuing any more search-warrants, on the ground, among others. that such warrants would not apply to dead bodies as "property." The College purposes to see if the private apartments of the institution are to be thrown open to the curious gaze of the indiscriminate public.—*Boston Medical and Surgical Journal.*

Influenza Set to Music.—Composer Moroni, Director of the Opera at Smyrna, and whose name felicitously rhymes with harmony, having recovered from an attack of the *grippe*, has expressed his gratitude to Hygeia in a symphony, the melody clearly indicating the course of the malady, from the sneeze to the physician's bill. We trust that the audience is not made to experience "the tired feeling" during its performance, and that it all ends with a cymbalic jingle of coin in the doctor's wallet.—*Medical Record.*

Stimulating Effects of Brown-Sequard Elixir.—

A man in St. Paul,
Quite feeble and smaul,
Having lost all his gaul
Could not pummel his wife.
Now, through "Sequard's elixir,"
He beats and he kixer,
And sometimes 'e lixer
Within an inch of her life.

—*Kansas City Globe.*

Leprosy in Court.—A dispute respecting the diagnosis of leprosy in a certain case, led to the bringing of the person from quarantine into a St. Louis court. One look by the judge sufficed to enable him to order the person back to quarantine, and to clear the crowded court room of curious spectators.

Therapeutic Brevities.

Iodinated Muslin.—Taking advantage of the property possessed by cellulose of fixing iodine, which is afterward set free under the influence of gentle heat, "iodinated squares," to be used in the same way as ordinary mustard leaves, are proposed. It is said that the iodinated muslin has certain advantages over applications of the tincture of iodine, causing less irritation, so that the effects of the iodine can be longer continued. The fabric is prepared by first placing for a few minutes in a two per cent. sodium bicarbonate solution. It is then washed and pressed, and immersed for half an hour in a four per cent. solution of calcium chloride. Following this it is washed until the reaction is no longer alkaline, and placed in a five per cent. solution of hydrochloric acid for fifteen minutes, after which the acid is washed out and the muslin dried. Finely pulverized iodine is spread upon both sides, the fabric now loosely rolled, and placed in a glass jar. This is heated until vapors of iodine begin to arise, when it is sealed and placed for two hours in a water-bath at 212° F. On cooling, the muslin is ready for use.—*American Journal of Pharmacy*, February, 1890.

The Prevention of Chilblains.—Liebrich recommends the following wash as a prophylactic against chilblains:

℞. Alum, Sodium borate, āā 75 grains.
Rose water, 9 ounces.
M.

This should be used frequently.

He also advises either of the following ointments:

℞. Sodium borate, 80 grains.
Simple cerate, 1 ounce.
M.

or,

℞. Camphorated oil, 2 drachms.
Lanolin, 3 ounces.
M.

—*Med. News*, March 1st, 1890.

Typhoid Fever in Children.—H. N. Read, in Brooklyn Med. Jour., reports twenty-two cases, and draws the following conclusions from them:

1. Typhoid fever attacks young children only about one-third or one-fourth as often as it does adults.
2. As far as is known, it attacks boys more frequently than girls.
3. The prognosis is better in children than in grown people.
4. The treatment best adapted for typhoid in children, is that which keeps the temperature within reasonable limits, and supports the strength of the patient. The more powerful depressants, aconite, veratrum viride, gelsemium, etc., are contraindicated. The ordinary diffusible stimulants, ammonia, nitrous ether, etc., and the usual heart-tonics, quinine, digitalis, etc., are not needed, and therefore may do harm. The best febrifuge is sponging

with cool water, assisted, when the fever rises to 104°, by analgesin or phenacetin. Alcohol, in some of its various forms, is the best stimulant. Milk is the best diet.

Coffee as an Antiseptic.—It has been lately shown by Lüderitz, from a series of experiments conducted by him in the Berlin Institute of Hygiene, that coffee infusion as a beverage possesses very decided antiseptic properties. Several different forms of intestinal bacteria were experimented upon, and their development, and growth, was found in all cases to be interfered with by the addition of a small quantity of coffee infusion to nutrient gelatin. In pure infusion the bacteria were rapidly destroyed. The question as to what constituents exercise the antiseptic effect, cannot yet be fully determined. The caffeine is certainly active in only a slight degree; the tannin to a somewhat greater extent; but presumably of greatest importance are the substances that are developed by roasting. It is interesting to note that a cup of coffee left in a room for a week or more, remains almost free from microorganisms.—*Berlin Kliniche Wochenschrift.*

Strophanthus in the Treatment of Cardiac Disease in Children.—Dr. H. A. Hare (in University Med. Mag.) has reached the conclusion that digitalis gives relief to patients under the age of twelve years in a much smaller proportion of cases than it does in adults, and that though the stomach is more frequently disordered, increased dyspnœa, nervous irritability, and cyanosis often follow its use. On the other hand, strophanthus acts exceedingly well in the instances in which digitalis fails. The author supported this view by giving the details of two cases. In one case, aged eight, he gave two drops of the tincture of strophanthus every five hours, and in the other case, aged five, two drops three times a day.

The Cocoanut as a Tapeworm Remedy.—Pavici, in Ctbl. f. Bacteriol., 1889, vi, No. 5, noticed in himself that after partaking of the milk and meat of a cocoanut, a tænia inermis passed off. He then tried the remedy on five patients suffering from tapeworm, with uniform success. The milk of the cocoanut should be taken mornings on an empty stomach, subsequently eating the meat.—*Deutsche Medizinal-Zeitung*, p. 1192, Dec. 23, 1889.

Application for Warts.—The following is quoted from the Gaz. Med. Lomb., May, 1889, and is claimed to be very effectual:

℞ Acid salicylic, 15 grains.
Alcohol, 16 minims.
Ether, 40 minims.
Collodion, 1½ drachms.
M. Apply daily to the warts.

To Relieve Acute Cystitis.—Woodbury says that ten grains of the bicarbonate of soda in a half ounce of an infusion of uva ursi, every two hours, will relieve acute inflammation of the bladder immediately.—*Lancet and Clinic.*

Cotoin in Diarrhœa.—Dr. Terry's indications for cotoin in diarrhœa are, painless stools, followed by tenesmus, the stools being bilious in character.

Medical Progress.

THE TREATMENT OF CHRONIC DIARRHŒA.—H. F. Vickery, M. D., in Boston Medical and Surgical Journal, thus alludes to treatment of chronic diarrhœa:

I. The diseased part should be given rest.

II. Any tendency to abnormal fermentation should be corrected.

III. No fæcal accumulation should be permitted.

IV. Pain is to be relieved.

Taking up these four indications in order, rest for the bowels means the ingestion of such kinds and amounts of food as will tax intestinal digestion least. I say amount as well as kind, because given a certain bulk of food, it may be well borne when divided into two or more small meals, and cause diarrhœa if ingested all at once. Yet, it is not wise to go to the extreme of too little nourishment. Starvation works admirably in acute diarrhœa, but not in chronic. I tell my patients to take five or six meals a day, and at each meal as much as they crave of the kind of food permitted.

Now as to their diet. The intestinal tract in health is concerned in the digestion of all three of the cardinal elements of food—fats, starches, and albuminoids—the last, least to be sure, but yet not so far below the others that meat-broths seem to be any better borne than gruels. Milk (aseptic) has proved excellent. Scraped raw beef is praised by many, although dread of tapeworms has deterred me from recommending it. Oily food is to be avoided. So much for quality.

As to consistence, nothing must be swallowed that can mechanically irritate the intestines; and liquids are better than solids. I allow any sort of liquid food that is smooth—beef-tea, broths, milk and gruel made largely of milk and from any kind of grain, provided it is strained through a fine cloth before being taken.

With convalescence, the patient may regale himself on boiled rice, soft-boiled eggs, toasted bread, steak, mutton, and potato, gradually and tentatively resuming ordinary diet.

II. The intestines in health swarm with bacteria, and the natural processes of intestinal digestion border close on putrefaction. Hence some antiseptic is almost always a useful ingredient in the prescription for a case of chronic diarrhœa. Subnitrate of bismuth probably acts to some extent in this way, besides soothing the mucous membrane. Michailoff, of St. Petersburg, has recently reported the cessation of a diarrhœa which had lasted thirty years under the employment of salicylate of bismuth. I have also used carbolic acid (one-half grain in each dose), beta-naphthol (one-half to one grain), or salol (two and one-half to five grains. Thymol has also been praised (two grains three times a day), but in the one case in which I tried it, it was suspected of causing headache, although the diarrhœa improved while it was being taken.

III. It is not merely in chronic dysentery that fæcal masses may cause mischief. The subject

of a chronic diarrhœa should have a daily evacuation of the bowels. The simplest way to do this is to go to stool at a certain time every twenty-four hours, and at that time, if necessary, to take an enema of cool water. In some instances I have incorporated rhubarb with the diarrhœal medicine. In others I have written a separate prescription for fluid extract of cascara sagrada, directing the patient to substitute this for his other remedy if the bowels become sluggish; this seemed particularly valuable in cases of chronic intestinal catarrh, where a history of alternate diarrhœa and constipation was given.

IV. Pain is a symptom of varying prominence in chronic diarrhœa. The preceding directions go far to remove it, if present; but at the start, it is often advisable to add five minims of deodorized tincture of opium, or a drachm of paregoric, to each dose of medicine, omitting it as soon as may be. Sometimes the bowels are lame, so that motion is painful. Sometimes changes of temperature affect the patient disastrously. For both these conditions a flannel swathe is useful. And in severe cases, rest in bed is demanded.

The various astringents, such as tannin, sulphate of copper, alum, liquor ferri nitratis, and nitrate of silver, I have used little. I once saw an obstinate case of diarrhœa, under the care of Dr. Francis Minot, yield to half-grain doses of oxide of silver.

Where the frequent dejection of small amounts of mucous and blood with tenesmus indicates the predominance of colitis, rectal irrigations through a soft tube passed high up, are both rational and efficient, although my personal experience with them is slight. Two or three pints of simple cold water used in this way does good. In it can be dissolved sulphate of zinc or alum to the amount of one grain to every four or six ounces of water; or two grains of nitrate of silver to a pint, can be injected every one or two days, if allowed to come away at once

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PULMONARY AUSCULTATION DON'TS.—Don't auscultate in a cold room.

Don't auscultate over the clothing.

Don't auscultate a chest before percussing it.

Don't practice immediate auscultation, but select a good stethoscope and familiarize yourself with its peculiarities.

Don't forget that the hair on the chest may give rise to crackling sounds under the stethoscope.

Don't forget that your own beard or hair may do the same in any mode of auscultation.

Don't suppose that a double stethoscope is better than a single one because it enables you to listen with both ears.

Don't forget that you can hear best with a double stethoscope when it is held in a straight line.

Don't fail to take into account that a metallic stethoscope imparts a metallic tone to all chest sounds.

Don't buy a stethoscope in which the stem does not go through the ear piece entirely; for the stem is the principal conductor of sound, and thus insures complete continuity of material from the chest walls to the ear.

Don't lean hard on the stethoscope.

Don't allow clothing or your fingers to rub on the stethoscope while you listen.

Don't auscultate with any silk material between the patient's skin and your ear.

Don't ever omit to auscultate the apices and bases thoroughly.

Don't neglect asking your patient to cough when you are in doubt as to whether a râle is located in the alveoli or bronchi; if in the latter it will be dislodged.

Don't fail to realize that râles in one interscapular region are sometimes reflected in the opposite healthy lung through the medium of the large bronchial tubes; and that a large râle or ronchus in one of the main bronchial tubes may be transmitted over the whole or a greater part of the chest.

Don't set too high a value on a single physical sign; always endeavor to find corroborative ones.

Don't fall into the common error of believing that the crepitant râle never disappears under examination. This takes place when freshly developed crepitation is not too profuse and is subjected to repeated forced inspirations.

Don't regard a slight click at the end of inspiration, or at the beginning of expiration in an apex, as a trivial sign.

Don't forget that, as a rule, the crepitant râles at the base are more moist and crackling than at the apex, and that the latter are more resistant to treatment than the former.

Don't think, if you find a wavy or jerking respiration, that it is always a danger signal.

Don't place too much reliance on vocal resonance or bronchophony.

Don't fail, in listening for prolonged expiration, to ask your patient to breathe through his mouth. This will prevent those sounds which are produced in the nares from being transmitted into the lungs.

Don't say blowing expiration for prolonged expiration. In auscultation parlance, blowing applies to inspiration.

Don't overlook the fact that creaking and crumpling râles in an apex may indicate an old dry cavity.

Don't accept the common teaching of some text-books that the pitch of expiration in a cavity is always lower than that of inspiration.

Don't omit to remember that, in a good-sized cavity in the left lung, the heart sounds occasionally produce a metallic reverberation.

Don't conclude that, owing to the absence of well-recognized signs of disease in the chest, there is no phthisis, when wasting, cough, and fever persist.

Don't fail to record the physical signs and symptoms of every case you examine.—THOMAS J. MAYS, M. D., in *Med. and Surg. Reporter.*

THE TREATMENT OF CYSTIC GOITRE BY ELECTROLYSIS.—In a recent paper upon the treatment of cystic goitre,* Thomas M. Hovell, F. R. C. S. E., recommends Sir Morell Mackenzie's method, a description of which was first published in 1872.† He compares this plan of treatment with the methods advised by the authors of the leading English and American works on surgery, and unless he is too enthu-

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* Wood's Medical and Surgical Monographs.
† London Lancet, May 11, 1872.

siastic in his support of Mackenzie's treatment, it is a matter of surprise that a method so efficient and safe should have been nearly ignored by eminent surgeons, while operations of doubtful utility and much hazard have been given the preference. In Holmes' System of Surgery, 1883, Mackenzie's method is recommended as the best. However, Mr. Bryant‡ apparently gives preference to simple tapping of the cyst, or injections of an alcoholic solution of iodine, or of the perchloride of iron. In cysts of the isthmus he recommends incision into the cavity as a good and successful operation. With these recommendations Mr. Hovell takes issue on the ground that tapping is very rarely successful, and that the irritating injections tend to cause inflammation which may be extensive, without providing for checking of hæmorrhage when iodine is used, or for the escape of pus in either case.

Mr. Bryant's recommendation for incision of a cyst of the isthmus, or free incision of any cyst as soon as it has suppurated, is objected to as being unnecessarily severe and dangerous.

Mr. Erichsen recommends tapping, or injection of tincture of iodine, and refers briefly to Mackenzie's method.

The late Prof. Gross enumerates six methods of treatment of cystic goitre, viz; the seaton, puncture, injections of iodine, incision, excision, and electrolysis, and states that all are more or less serviceable, but not free from danger.

Mr. Hovell agrees with Mr. Bryant that the treatment by seaton is dangerous, and cites Billroth, who twelve years ago spoke unfavorably of incisions, but reported thirty-five cases treated by injections of iodine, with twenty-cures and one death. Billroth had operated eleven times by von Brun's method, *i. e.*, incision of the sac and stitching its walls to the skin, but of these three had died.

Mr. Hovell considers incision a very serious operation; thus from his comparison it appears that Sir Morell Mackenzie's operation is far superior to any other; however, he does not consider electrolysis. Without informing us as to the actual results of Mackenzie's method, except in two cases treated by himself, he leads us to infer that it is practically free from danger, and may be expected to cure the case in from three weeks to four months, and that in the majority of cases the duration of treatment will not exceed eight weeks.

Sir Morell Mackenzie's treatment consists in tapping the cyst with a trochar, the cannula of which corresponds in size to a 7, 8 or 9 English catheter. After the contents have escaped, he injects into the cyst a solution of perchloride of iron (℥ ij. to aq. ℥ j.), which is allowed to remain three days, the cannula having been corked and kept in position by a tape passed about the neck. At the end of this time the plug is removed, and if suppuration has taken place the cavity is treated like a chronic abscess; but if suppuration has not occurred, the injection is repeated and managed as before. After suppuration takes place poultices are applied, and the cavity washed out through the cannula several times a day with some antiseptic solution.

This method seems to have been followed by most excellent results, but my personal experience with electrolysis, in two cases, leads me to believe that it sometimes cures more rapidly than, and is at the same time devoid of many of the inconveniences of, the treatment just described.—E. Fletcher Ingals, M. D., in the *Journ. Am. Med. Association.*

‡ Practice of Surgery, 1884.

Warm Medicated Water Vapor in the Treatment of Laryngitis, etc.—To relieve pain and distress, and to promote recovery in acute catarrhal laryngitis or laryngo-bronchitis, nothing is of greater service than the inhalation of steam at a temperature of about 140° F., impregnated with some balsamic or sedative medicinal vapor.

The compound tincture of benzoin is one of the most useful preparations, and may be used singly, or combined in equal parts with paregoric. One or two teaspoonsful are to be cast on the surface of steaming water in a suitable vessel, and the vapor inhaled for about five or ten minutes at a time, two or three times a day.

An elaborate inhaler is unnecessary. A bowl, pitcher, fru't jar, or wide-mouthed bottle, which will hold from a pint to a quart, and afford an evaporating surface of from three to six inches diameter, covered, not too tightly, with an inverted funnel or paper cone having a half inch aperture at the apex, will answer every purpose. A good form of permanent inhaler may be made by boring two holes through the tin cap (or cork) of a fruit jar, and inserting in each a perforated rubber stopper carrying a section of glass tubing. One of the tubes—the air tube—should project but slightly above the stopper, and should reach nearly to the bottom of the jar. The other should extend but a half-inch or inch into the cavity of the jar, and should project about the same distance above the stopper, to enable a pure rubber tube connected with a mouthpiece of glass, hard rubber, or wood, to be attached. Whatever form of inhaler be used, it should not be more than half or two thirds filled, in order to allow a sufficient volume of steam to collect above the surface of the water.

The vapor is to be breathed, not sucked. The lips should not be closed about the mouthpiece;* in fact, the mouthpiece need not be placed within the mouth at all. It should be so held that it directs the vapor towards the open mouth, and the act of inspiration should be sufficient to draw the vapor into the throat together with the inspired air. Inspirations should be as long and deep as possible.

In addition to the drugs mentioned, some such formula as the following modification of one used at the London Throat Hospital, may often be employed with advantage;

℞ Creasoti (Beechwood), f. ʒ j.
Ol. pini sylvestris (vel. ol. pini pumilonis vel terebenis), f. ʒ iij.
Magnesii carbonatis levis, ʒ jss.
Aquæ, q. s. ad f. ℥ iij.

M. S.—Shake well before using. Inhalation mixture. One teaspoonful to be thrown upon a pint of steaming water at 140° F.

Oil of eucalyptus may sometimes be advan-

* If an inverted tin funnel be used, no one will twice attempt to close the lips about it.

tageously employed in place of the terebinthinate and balsamic preparations mentioned, but in very much smaller quantities, owing to its extreme pungency.

Warm and moist inhalations should never be used in chronic inflammations of the mucous membrane of the air passages. The directions here given are for the treatment of acute cases only.—S. Solis-Cohen, M.D., in the *University Medical Magazine*, March, 1890.

New Indications in the Treatment of Gonorrhœa.—According to Jullien, a famous Continental authority on venereal, if the gonorrhœa be but just beginning, the following injection, made with the Langlebert syringe with retrograde jet, will sometimes abort the attack:

Nitrate of silver, ℈ ss,
Distilled water, ℥ i.
M.

If the flow is well established, one of the following injections will be useful:

1. Corrosive sublimate, gr. ss,
Distilled water, ℥ v.
M.

2. Salicylate of mercury, gr. j,
Bicarbonate of soda, gr. xv,
Distilled water, ℥ v.
M.

3. Resorcin, gr. xlv,
Distilled water, ℥ v.
M.

4. Creolin, ♁ j,
Distilled water, ℥ v.
M.

5. Pyridine, gr. vijss,
Distilled water, ℥ v.
M.

Whatever injection is selected, should be repeated often, every two hours, if possible, and notably after each micturition. The injection is more active if given warm—about blood-heat.

It is when there is no pain that one may prescribe the balsams with the most chance of success. No preparation is superior to the following:

Cubebs freshly pulverized, ℥ jss,
Copaiba, ℥ j and ℥ ijss,
Essence of peppermint, several drops.
M.

Three times a day, just before eating, take of this mixture a bolus about the size of a nutmeg.

If the desired amendment is slow to show itself, it is in varying the preparations and rendering their action more lasting by means of certain powders held in suspension, that one will act with the greatest efficacy. Here are two good formulæ for injections:

1. Salicylate of bismuth, ℈ jss to ℈ ijss.
Liquid vaselin, ℥ v,
Sulphate of quinine, gr. xv,
Sub-nitrate of bismuth, gr. lxxv,
Gum acaciæ, pulv., ℈ ijss,
Glycerin, ℥ i,
Rose water, ℈ iv.
M.

2. Salicylate of bismuth, ℈ jss to ℈ ijss,
Resorcin, gr. xlv,
Iodol, gr. xv,
Liquid vaselin, ℥ v.
M.

It will be sufficient to practice the injections on rising in the morning, and on going to bed at night.

On the Antiseptic After-Treatment of Vaccination.—During some five years' experience in a large public vaccination district, with a mixed population of over 100,000, and a yearly average of over 2,000 vaccinations, I have noticed that the most common mischief one has to dread is the occasional occurrence of erysipelas, which, of course, as in the case of any ordinary wound, may, under conditions favorable for its development, end fatally through septic absorption.

It is a noteworthy coincidence that all the cases that have come under my observation, have been in children in whom cleanliness was almost entirely neglected, or who were living in houses where the hygienic surroundings were bad. There is no doubt that all attacks of blood-poisoning which follow vaccination are due to one or other of these causes, and that they are not the direct result of the operation, as anti-vaccinationists so confidently and unjustifiably assert.

In my practice as surgeon to a general hospital, having been for many years profoundly convinced of the value of antiseptic treatment in surgical affections, I have long felt that the same principle might be employed with advantage to prevent the incidence of erysipelas or blood-poisoning after vaccination. Acting on this idea, I have for over a year employed an antiseptic pad for the protection of the vaccinated arms of infants, applying it after the opening of the vesicle on the eighth day, before which date (in my experience) septic absorption does not take place.

The pad is composed either of boracic or eucalyptus absorbent cotton wool, or of Hartmann's perchloride wood wool wadding (the latter being the most absorbent, and therefore answering best), and covered at the back and edges by antiseptic gauze.

Two straps of soft half-inch tape fasten the pad to the arm; a similiar tape, which passes from its upper border to the opposite axilla, prevents the pad from slipping down. The mother must be warned not to disturb this arrangement for at least six days. I have tried this protective dressing in about 100 cases, some of them specially selected on account of the large inflammatory areola, and have found that on removal of the pad on the sixth or seventh day after its application, the inflammatory infiltration has entirely disappeared, and in most cases a firm, hard scab has already replaced the vesicles, so that the arm can safely be left uncovered.

The following are the advantages claimed for this form of protector:

1. It protects the arm from external violence.
2. It absorbs all discharge.
3. Most important of all, it reduces the risk of septic absorption.
4. It cannot be used a second time, like the ordinary shield, which it is too often the dangerous practice to use again and again.

5. Lastly, and not its least advantage, is its extreme cheapness.

As the result of the practical experience gained in this matter, my conviction is that this antiseptic absorbent covering effectually minimizes the risks of erysipelas and blood-poisoning, those *bêtes noires* of all vaccinators, and is well worthy of a thorough trial.—John Bark, M. R. C. S. Eng., in *British Medical Journal*, Feb. 17th, 1890.

THE PURIFCATION OF THE MILK SUPPLY.—Our readers doubtless share the interest which recent contributions have excited in the matter of the influence of the milk supply upon infantile mortality. We have endeavored to lay before them the results of the most mature reflections of our exchanges; and in continuation of this effort we now refer to a recent "hygienic word of warning," by Dr. Schmidt (Archiv f. animal Nahrungsmittelkunde).

"Is the wholesale murder of our infants by the summer decomposition of cow's milk an inevitable fate?" asks Dr. S., and he answers the question in the negative.

In order to deprive the milk supplied to the people of its universally dangerous character (it may contain seven millions of bacteria in each cubic centimeter) without increasing its cost, the following excellent propositions are made by the author:

1. The stables should be kept scrupulously clean, and the health of the animals supervised by veterinary authority. The animal, especially the udder, should be carefully cleansed; the milk receptacle should be clean, and the stable air pure during milking.

2. The milk should be rapidly cooled and kept from being churned during removal to the consumer, which should be made in the most cleanly vessels. The dealers should be under supervision.

3. The milk should be boiled immediately after its receipt by the consumer, not in large vessels from which it may be dipped out, but in several smaller ones, which should be carefully and quietly kept in a cool place until used. Soxhlet's apparatus is to be commended for the better situated classes. For the poorer people there should be central stations for the delivery of sterilized milk, in order that the small bottles of the latter may be warmed by placing them in water at 40° C. But even without these, even among the poorest people, the infant's food can be decidedly improved by boiling the milk at once in vessels of half a pint, covering it with a clean cover, and allowing to remain absolutely quiet in a cool place.

Every city should establish a commission consisting of a hygienist, a veterinarian and a chemist, who should guard the milk supply in the above manner.

Sooner or later our health authorities must come to an appreciation of the fact that in the milk supply lurks the unseen enemy who annually slaughters our innocents. To dislodge him from this stronghold appears a much easier task than the caring for the thousands of pale-faced and shrivelled infants who every summer demand the tireless efforts of an additional sanitary corps and of the benevolent devisors of seaside hospitals and excursions.

Obsta principiis is an old maxim in medicine. —*Deutsche Gazette.*

MANAGEMENT OF ECZEMA.—Mr. Jonathan Hutchinson says if he were required to name one remedy only for eczema, it would be *tar*. If allowed to choose two, tar, and lead. And if three, tar, lead, and mercury. Yet for a disease which presents so many phases and varieties, both in kind and stage, as does eczema, it may seem almost absurd to speak of single remedies.

The chief reason which prevents tar from holding its proper place in the treatment of this disorder is, that commonly it is used too strong. If weak enough, and used freely enough, tar solutions will, in his experience, almost invariably cure eczema. While he admits the value of tar-water, and carbolic acid, he regards as most certain and convenient, the solution of coal-tar known as *liquor carbonis detergens*. A teaspoonful to a pint of water is a common strength, but he often prescribes it in a much more dilute form. It should be so weak that it will not cause smarting, when it should be employed like water. The parts affected should be bathed with it, and rags soaked in it should be laid over them, and frequently rewetted from the outside. On no account should oiled silk be used, as it tends to render the parts sodden and to spread the eczema.

Eczematous imflammation is usually, according to Mr. Hutchinson, a local self-infecting disorder. It begins in a predisposed irritable skin by some local excitement, and prospers under the laws of self-contagion. In most cases the blood has little to do with it; and it cannot usually be cured by internal remedies alone, whereas, in nine cases out of ten it may be relieved by local treatment, and that too without any alteration in the diet or resort to internal medication. He, however, recommends abstinence from sugar, fruit, and milk. Very often, too, salines may be administered with advantage, and also, in acute cases, tartarized antimony. Weak tar lotions may be used for eczema without much regard to the degree or stage of the eruption. In a few cases of very acute inflammation, however, it is preferable to use a lead lotion for a few days, and to add tar only when the congestion is a little abated The cases are, however, very few in which he omits the tar, even at the beginning. Very often, indeed, his lotion consists of *liquor carbonis detergens* and *liquor plumbi diacetatis*, in equal proportions, diluted as above directed.

Arsenic rarely does any good in eczema, and often irritates. Weak sulphur baths often cure chronic cases, chiefly those of dry eczema, but severe cases have been known not only to remain uncured, but have apparently been made worse thereby.—*Archives of Surgery* (London).

DIET IN LITHÆMIA.—Dr. William H. Draper, of New York, read a paper recently before the Practitioners' Society (New York Medical Record, October 12th, 1889) in which he attributed the lithæmic state to the insolubility of uric acid in blood which is not in a condition of normal alkalescence. As the presence of uric acid in the urine is an indication of the acidity of that excretion, and so of the blood, the proper method of preventing the appearance of uric acid would be to restore the alkaline condition of the blood. The normal alka-

lescence of the blood is doubtless maintained by the use of proper food and the salts therein contained. Most of the food salts are alkaline, but free acid enters the blood with the acid salts, such as the carbonate and acid phosphate of sodium; also in wines and beers, and above all from the fermentative process which goes on in the alimentary canal in the saccharine, amylaceous, and fatty elements of the food. Hence the author would as rigidly exclude the carbo-hydrates from cases of lithæmia as he would from those of glycosuria; but he does not find that his experience warrants the adoption of the general plan of excluding the nitrogenous elements. Among the carbo-hydrates it is often only necessary to exclude the fermented preparations of alcohol to correct the uric acid formation. Wines and beers particularly should be interdicted; next to these the fruits, such as strawberries, watermelons, apples, and oranges, which of themselves occasionally determine an attack of gout. The ordinary sweets should, of course, not be allowed, and the exclusion of the carbohydrates may even have to be extended to the farinaceous foods.

The farinaceous foods seem to be best adapted, when available in these states, to those who do a great deal of muscular work; the nitrogenous to those who are engaged chiefly in mental labor.

In conclusion, then, we are recommended not to withhold the nitrogenous diet, as has been heretofore taught, but to allow of a judicious mixture of these foods. On the other hand, the use of all those substances—saccharine and farinaceous—that are liable to fermentation in the alimentary canal, and to undergo imperfect conversion in the liver, should be strictly prohibited.

This dietetic treatment is best for lithæmia, since the administration of drugs is of far minor importance for the correction of the uric acid diathesis. It is well supported by clinical results, and on these alone we must depend in the absence of more accurate knowledge in regard to the chemistry of digestion. We hope that some one may soon be able to prove by exact experimentation just how the uric acid arises in the organism, and then our treatment will have a rational scientific basis, besides a mere clinical one.—*Dietetic Gazette.*

A Contribution to the Physiological Study of Infantile Digestion; a Preliminary Note.—For several months I have been engaged in the examination of the contents of the stomach, and also of the excreta, in nursing and artificially fed infants, and I desire to record in this preliminary note certain conclusions reached from the investigations.

The method has consisted in the chemical estimation of the amount of albumen, sugar, water, solids, fat, and ash in the stools of healthy and dyspeptic infants, and the examination of the contents of the stomach at varying intervals after feeding, by the chemical tests recently introduced for the study of gastric disease. These reagents have been Uffelmann's iron and carbolic acid test for lactic acid; Congo paper; the yellow tropœolin; and methyl violet. Finally, the milk clot from the stomach has been microscopically examined to ascertain the degree of disintegration of the fat globules of the ingested milk, and to determine the presence of bacteria.

From these investigations the conclusions are reached that the stomach of the nursing infant, and of the infant fed on sterilized milk, when both are healthy, contains neither hydrochloric nor lactic acid; when gastric catarrh is present or when high temperature has recently existed, an acid, (or acids), is found which reddens litmus, but does not respond to tests for hydrochloric and lactic acids. The milk clot from healthy infants, whether breast-fed or sterilized milk-fed, contains no bacteria, and its fat globules are reduced to granular matter in from half an hour to one hour after feeding. In proportion as gastro-intestinal catarrh exists, the excreta of nursing and artificially fed infants contain an excess of undigested fat.

These results of investigation, combined with the clinical study of infantile digestion and its disorders, warrant the inference that in the digestion of the infant hydrochloric and lactic acids do not exist; that milk is clotted by a rennet ferment active in alkaline or neutral media; that the stomach serves the purpose of a coagulating medium, which is empty in less than an hour after feeding; that digestion and absorption proceed according to the activity of the pancreatic and intestinal secretions, the pancreas being especially concerned in normal digestion, and the lack of its function activity being most apparent in gastro-intestinal disease. It is my purpose soon to discuss further and elucidate these points.—Edward P. Davis, M. D., in *Medical News.*

Mortality Among Artificially Fed Infants.—Doctor Bertillon recently, on the basis of statistics prepared by Dr. Richard Boëckle, made a report on this subject to the Société de Médecine Publique. He demonstrated that the mortality of infants fed on artificial food or reared upon the bottle, all things being equal, is six to seven times as great as among infants nourished at the breast. The statistics also prove that neither the age of the babes, their legitimacy or illegitmacy, nor the social condition of their parents, is able to explain or modify this discrepancy. The very considerable difference in the mortality found between the two categories of infants (45 and 7 per thousand living in each category) is wholly due to the difference in alimentation. Although the mortality among illegitimate infants in Berlin is generally double that of the legitimate, yet this is quite consistent, as the former are far more often nourished by the bottle than the latter.—*Revue d' Hygiene Thérapeutique.*

Treatment of Goitre by Ligation of Afferent Arteries.—Professor Rydygier of Cracow, Poland, reports twelve cases in which the arteries were tied and the thyroid left. Several cases of Billroth's, are referred to. Billroth and Rydygier, both, speak of the difficulty of getting the vessels to stand a ligature. They tore frequently. No reference is made to Watson's researches and method of ligaturing outside of the capsule of the thyroid, published fifteen years since.—*Edinburgh Medical Journal.*

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Original Articles.

SOME PRACTICAL HINTS TO THE RECENT GRADUATE.*

BY J. J. MULHERON, M. D., DETROIT, MICH.†

GENTLEMEN:—The goal on which your eyes have been fixed, and towards which you have faithfully striven since you became matriculates, has at last been reached. Your years of sacrifice and study, and the ordeals of quizzes and examinations to which you have been subjected, have to-day culminated. The Faculty having recommended you to the Board of Trustees, that body, in the exercise of the power derived from the great Commonwealth of Michigan, have declared you Doctors of Medicine, and have attested the declaration with the diploma under the seal of this College. This act introduces you to the ranks of the ancient and honorable profession of medicine; and it has devolved on me, through the preference of the Faculty, and conformably to a custom which has long been observed, to formally welcome you. I assure you, gentlemen, it gives me great pleasure, here in the presence of this grand assemblage, composed so largely of friends whose eyes have been on you, and whose hearts have been with you from the moment you entered the race which you have now run, to discharge my commission. I most heartily congratulate you and extend to you the right hand of fellowship. From this time forth the the prefix of "Dr." attaches to your names, and you will go out from this hall with a warrant to engage in the noblest calling known among men. Cicero declared of this calling that "men in no way approached nearer the gods than in giving health to their fellow-men," and Hippocrates held, "that the philosophical physician is in a manner a god." This early estimate by the great minds of the past of the new function which you have assumed, has not been lessened by the centuries, and to-day,

> "All men hold in honor
> The skillful leech. From land to land he goes,
> Safe in his knowledge; the sword of war
> Spares him; kings welcome him with costly gifts,
> And he who late had from the couch of pain
> Lifted a languid look to him for aid,
> Beholds him with glad eyes, and blesses him,
> In his first thankful prayer."

*Address delivered at the Second Annual Commencement of the Michigan College of Medicine and Surgery, Detroit, March 14th, 1890.

†Professor of Obstetrics and Diseases of Women.

But, gentlemen, while your calling is thus *per se* so honorable, it is not sufficiently potent to win for any one of you lasting consideration independent of your individual conduct and efforts.

While the diploma which has been awarded to you to-day is a good and sufficient passport to the company of the most respectable and esteemed, it depends on the man who possesses it whether he shall maintain or advance his position therein. Neither diplomas nor legal enactments can make men. Your new honors carry with them new responsibilities, and the manner of your discharge of the latter can alone determine whether the former have been worthily bestowed. Your teachers have been able to do no more than to place your feet on the threshold of an honorable career. Are you going forward to possess the land? Much as we and your friends would like to go with you, and lend the results of experience to guide and guard you against the dangers which beset youth and inexperience, we cannot, in the very nature of things, do so. The most we can do is to start you on your course, to give you a few general directions, and to bid you God-Speed. Remember that you must be the architects of your own fortunes, and that a false step may blast your prospects. To the thoughtful mind, the young physician about to enter upon his life work is a subject which arouses very conflicting sentiments, and I can sympathize with the veteran who had survived the wear and tear of half a century's practice, and who, in attempting to address a class under similar circumstances to the present, could only say: "Young gentlemen! God help you all," and sit down overcome by his emotions.

The dark side and the bright side of a medical practice are very pronounced in their characteristics. Do not for a moment conceive of your new vocation as one of ease and comfort. Inherently a laborious calling, the rapidly growing competition demands brave hearts as well as cultivated minds and strong bodies. The time has gone by, when the boy who was too indolent or too weakly to win success behind the plough, or in the workshop, was selected by loving and indulgent parents for the medical profession. There is, it is quite safe to say, no avenue to competency and the esteem of one's fellow citizens, in which progress is more difficult than the practice of medicine. The struggle for existence is here

very sharp and determined, and it requires qualities of mind, heart, and body, of no mean order, to enable the combatant to overcome the obstacles to success. The mental anxiety which the conscientious physician undergoes is of a nature of which the public know too little, while the antagonism of the ignorant, the calumny of the malicious, the blame of the querulous and the preference given to the mountebank, are calculated to cause an acidity of temper which only the highest kind of philosophy can ward off. The country practitioner plodding through mud and breasting inclement weather at all hours of the day and night, is truly a type of hardship, but the unpleasantnesses of practice are by no means centred in this good man. The patient waiting for practice in the large city, and the labor of a large practice which makes the physician a practical stranger to his own fireside, to the children who are growing up around it, and to the joys of domestic life, furnish a very complete counterpart to the hardships endured by his country brother. Who knows the wear on the sympathies, the bodily fatigue, and the mental strain of the physician whose name is a household word in the metropolis?

But, gentlemen, it is perhaps unkind, if not, indeed, cruel, in me to even thus barely touch, on this joyous occasion, on this hard side of the vocation which you have adopted. Heaven forbid that I should do aught to leaden the roseate blush which meets your eyes as they peer into the future. And there *is* also a bright side to this calling of ours, and this bright side is very bright. Each one of you may become, in your respective communities, the welcome visitor, and feel in the hand the indescribable pressure which betokens the grateful heart; him to whom many will turn in the hour of trouble, danger, and anguish; the repositor of secrets which the burdened heart must have some one to help it carry; the sturdy oak round which many vines will entwine themselves; the hope of many, the friend of all. Can you picture to yourselves anything more glorious? Truly, I congratulate you upon this bright prospect.

On this, the last occasion on which we shall meet together in the relation of teacher and taught, it would be but natural that you should expect of me, as representing the Faculty, some words of advice as to your relations to the public, and perhaps also some suggestions touching the practical side of your calling—the hire, for instance, of which no laborer is more worthy than the conscientious and competent physician. For while we owe a duty to the public, the public owes a duty to us. Your teachers have devoted themselves to instructing you in the science of your calling, but they have not failed to admonish you from time to time, that while what they have aimed to teach you is indispensable, it is not in itself sufficient. It is not all of the qualification of the successful practitioner to know the gross and minute anatomy of the body, to understand thoroughly the functions of all its parts, to know how they are influenced by disease and how the drugs operate to restore the equilibrium of health. A man may know all these things as thoroughly as the existing status of knowledge therein permits, and yet be a failure according to the accepted standard of success. This standard has been fixed by the prevailing spirit of the age, and we may not close our eyes to the fact that a commercial tone is quite pronounced therein. It is indeed a sublime calling which aims to relieve the sufferings of body and mind, and the life of the ideal physician is one of self-sacrifice and self-abnegation of one who does this kind of good, taking no thought of what he shall eat, of what he shall drink, or wherewithal he shall be clothed. But, gentlemen, this ideal will not stand the wear and tear of this later utilitarian age. You will be thrown out upon a very practical, matter-of-fact sort of a public. You will take to yourselves wives, and, we hope, the legitimate fruits of such union will be multiplied in the true Biblical spirit. The wives whom you shall have pledged yourselves to provide for, and the children whom it will be your duty, as their paternal factor, to care for, will demand that a certain element of business enter into your philanthropy. Be as good as it is possible for the human being to be; spend yourselves in looking after the suffering poor; refuse never to respond to the call of the sick, regardless of the sordid fee—be indeed the ideal physician, as he is pictured in the sentimental story—and still the butcher, the grocer, the dry-goods man, the coal man, *et hoc genus omne*, want cold cash for the wares which you must buy of them. They will ask you quite as much for them, and be quite as pertinacious for their pay at the end of the month (if, indeed, they don't insist on spot cash), as though your calling were not any more philanthropic than that of the—the lawyer, for instance. Unless you pay your bills your credit will run out, and unless you and your family move in a plane of society in keeping with your calling (and this you cannot do without money) even those who move on a lower plane will not be very likely to patronize you.

Ideals do not stand the wear and tear of life as it is at present adjusted. I have little patience with the commencement orator who creates for your ensample an ideal which any man of a fair gift of common sense knows right well would die of starvation before the paint on his shingle has got well dried. There was a time when the physician made no charges for his services and depended entirely for his support on honoraria. In those days, how-

ever, he generally united the teaching of religion with his calling, and thus, it is presumed, soon developed the characteristic facility of the clergy for setting on foot donation parties.

In these latter days we hold the laborer worthy of his hire and if there is any form of labor to which the injunction applies with peculiar force, it is the practice of medicine. We are not mendicants, dependent for our reward on the charity of the public for the services which we render. We ask no favors, but insist on a proper fee for the skill which we dispense for the benefit of the afflicted. This does not prevent us from giving our services to the deserving poor, and, to the honor of our profession it must be said, we in this way dispense more charity than is dispensed by all the other professions combined.

And we do it quietly and without ostentation or display. But we have no toleration for those who, while abundantly able to pay us for what we do for them, often saving them from the offices of the undertaker, and at a much less cost than that of the regulation funeral, defer such payment until all the other debts which have accumulated during the illness have been liquidated, and it too often happens that some of the latter are never paid.

It is meet and highly proper that you should regard your profession as a means of providing the wherewithal for the payment of your debts, the education of your children, and the provision of a competency against old age. To this end you must cultivate proper business methods, and while striving to give your patrons the best service consistent with the status of contemporary science, bear in mind that peculiarity of human nature which makes men appreciate most that which they pay for.

The blessings of Providence are poured out with a lavish hand, without money and without price, but they are not appreciated at their worth until they take their flight. If men were obliged to pay for them, they would be held in estimation proportioned to the expenditure necessary to secure them. The "good" physician who charges but a pittance for his services and then lets his patrons beat him out of his hard earned dues, is tolerated, but rarely ever respected, even by those who are his beneficiaries.

I believe that the experience of the profession will agree with mine, in that the least credit and assistance to further patronage, comes from the patient in whose case you suspend the businesslike methods which charac terize the tradesman in the matter of securing what is his legitimate due.

Don't start out in practice with the notion that you will gain friends by treating your patrons as paupers. The man whose patronage is worth having has a spirit of pride and independence which will resent such treatment. Supplement the best professional qualifications with which you can equip yourselves, by proper business methods. Do not be commercial in the sense of oppressing those whom you believe to be honest but who are struggling against adverse conditions. But by no means let such a person feel that your leniency comes from the fact that you think he is poor. Here is where the indescribable tact which is so necessary to success comes into play. No man of the proper spirit wants to be made to feel that he is poor—and, indeed, it is seldom that such a man ever does feel poor. It is only when he is weakened by sickness or disease that he is apt to feel thus; and if you want to retain him as your friend, do not do anything to encourage that feeling. Have a proper regard for his temporary embarrassment, but do nothing to lead him to suspect that you do not expect him to pay you. If he be an honest man (and, fortunately, the majority of men are honest), he will take no offense at proper business methods; and if he be of the dead beat class, he will hold you in much higher respect if you succeed in compelling him to pay you. Never fail to improve the opportunity of thus commending yourself to this class of barnacles, and if you have trouble with them the second time, blame yourself and not them. Impress on such the wisdom of Ben Franklin's admonition against running into debt.

As I have already remarked, this injection of the proper commercial method into professional matters by no means implies that you should refuse your services to the poor. Our profession is essentially a philanthropic calling, and this of itself will ensure the proper care of those on whom Fortune does not smile. But there is another reason why you should never, during the first decade of your professional lives at least, let the question of fee determine whether you should attend or refuse a call. It will be years before you can discharge other than the philanthropic obligations which you will be under to the poor.

For a long time you will feel the need of patients on whom to try your newly-fledged pinions, as it were, and the poor man who calls on you to attend his family places you under obligations to him to which the time and skill which the case demands are a very inadequate offset. You will find yourselves somewhat left-handed for some time after you are thrown on your own resources. Your practical work up to this time has been carefully supervised by men of experience who have been responsible for the well-being of the cases of which they have let you have charge. Any errors of diagnosis of which you may have been guilty have, therefore, been corrected, and if you have bandaged a limb too tight, or prescribed an overdose, the safety of limb and life

has not been jeopardized. It will be quite different after to-day, and you will no longer be able to leave your patient with a heart unburdened by fear of the outcome of what you have done for him. In a very literal sense the patients who honor the young doctor with their patronage, take their lives in their own hands, and it will matter very much to them as well as to you, whether you mistake the eruption of small pox for measles, or treat a broken maleolus as an ordinary strain. There are some mistakes which even the grave cannot cover up, and which like Banquo's ghost, will not down. Be very kind to the poor, young gentlemen.

The highest triumph of the medicine of the future, the dawn of which some of you may live to see, will lie in the line of the prevention, rather than in the cure of disease.

Already the profession has done a great work in this direction, and has done it, too, to its own cost; for, be it understood, as things are at present adjusted, the emoluments of the physician come only through the afflictions of mankind, and to the extent that we prevent disease we cut off our means of support. In spite of this fact, however, there is at work a grand army of sanitarians, who, following in the wake of their predecessors, have shorn of their terrors many of the diseases which were wont at intervals to decimate humanity. But the time is coming when men will awake to a realization of the benefits of individual prophylaxis, when the ounce of prevention will command a higher cash value than the pound of cure, when the individual man will realize that it is more profitable for him to pay the physician for keeping him well than for restoring health after it has departed. The physician of the future will be more intent on the study of hygiene and sanitation than on that of materia medica and therapeutics, and for the one good reason, among the rest, that it will pay him so to be. The inconsistency of the present system of consulting the physician only for the relief of disease will, we hope, become apparent in the near future. A strong public sentiment demands a systematic inspection, at proper intervals, of boilers, steamboats, bridges and public buildings, so that evidences of weakness and decay may be early detected and danger thus averted; but, as yet, the infinitely more delicate mechanism of the human body is neglected until its serious impairment has occurred. A howl of indignation comes up from all over the land when an accident occurs through neglect of a proper inspection of these inanimate structures, but when one of God's living temples suddenly succumbs to the ravages of preventable disease, the survivors find consolation in the monstrous reflection that it is "the will of Providence."

The time is coming, we hope, when the ignorance, carelessness, and perversity of men will not be able to thus cloak themselves in a false philosophy. It is a hideous caricature of religion which ascribes all suffering and death to the will of God. A little attention to the dam in the Conemaugh valley would have prevented the little leak, which, neglected, eventuated in the frightful devastation of Johnstown. But man's carelessness, indifference, and cupidity, are daily causing infinitely more destruction to human life than occurred in that awful catastrophe. Some of you, we hope, will live to participate in the good time coming when the human body will be an object of as much concern as the steam boiler, and when the physician will be paid for removing the causes of, or for discovering and checking in their incipiency, diseases of which he is now too often but the helpless witness. When the fullness of that time has come, many of the diseases which are even now classed as preventable, will have no place in our nosology. Then, too, inherited tendencies will be combated with success, and the victims of consumption, Bright's disease, cancer, heart disease, etc., cease to figure so conspicuously in our mortality reports. In the coming order of things it will, moreover, not be necessary that these diseases should exist in order that the physician may be able to provide for himself and family the necessaries and conveniences of life. It will become you to favor the development of a public opinion which will effect this desirable change in the functions of our profession.

Gentlemen, there are many other things of which I should like to speak to you on this occasion, but time will not permit. Among these many things are the ethical relations which should obtain between you, the public, and your fellow practitioners. Volumes have been written and spoken on these relations, but the essence of them all was enunciated by the Good Physician nearly two thousand years ago: "As ye would that men should do unto you, do ye even so unto them." Take this rule of conduct for your guide. Aim to be always courteous Christian gentlemen, and you will find all codical regulations superfluous. Achieving this high and proper standard of manhood, you will not fail of the respect of all good men, and as physicians you will be an honor to your profession and reflect glory on your Alma Mater.

And now, gentlemen, must the farewell word be spoken. Your Alma Mater parts with you as parts the fond mother with the boy whom she has begotten and watched over and nourisned from infancy to manhood, and whom she sends forth from under her watchful eye to engage in life's struggle alone. God only knows the anxiety of that mother's heart for her offspring. She knows of a certainty that trials and temptations will beset him, but she

does not know of a certainty that the lessons which she has taught him will serve to carry through all these unscathed. We do not know how you may behave under the storms which will be sure to assail you, but we hope that the manhood within you may rise equal to every emergency. A very sure way to escape falling is to avoid the slippery places. Ulysses knew the weaknesses of poor humanity, and he did well to fill his companions' ears with wax, and to have himself tied fast to the mast when sailing past the shores of the Sirens. Guide your course by the north star of duty and you will steer clear of the shoals upon which reason and conscience are so often wrecked.

"What is your duty here? To tend
From good to better—thence to best;
Grateful to drink life's cup—then bend
Unmurmuring to your bed of rest;
And so to live, that when the sun
Of your existence sinks in night,
Memorials sweet of mercies done
May shrine your names in memory's light."

ON EMMENAGOGUES.

BY PROFESSOR A. RACIBORSKI.

Emmenagogues; from the Greek *εμμηνια*, "the menses," and *αγω*, "I promote," are agents designed to restore the monthly flow.

Among the so-called emmenagogues, we find means so widely different that one might be tempted to ask why they are classed under the same category? Many of them seem quite trivial when considered in connection with the importance of the *rôle* attributed to them. This peculiarity is easily explained. I have shown in a former lecture that there are cases where ovulation seems arrested only in its very last stage by reason of a condition of torpor or asthenia which prevents it ending in dehisence. Aran designates this form under the name of *amenorrhœa by asthenia*. In this state of things, all that is needed is often a slight excitation to complete the evolution of the ovum and bring on the courses. A cup of hot pennyroyal tea on going to bed, may have this effect. Almost all emmenagogues belong to this class of excitants; we may distinguish among them general excitants of a special character addressed particularly to the uterus and other pelvic organs, or which have the effect to determine blood toward the lower extremities. Lastly, among those which act on the sexual organs, there are some which produce their effect by being locally applied, and others which act by virtue of a special elective property after having first entered the circulation.

Everything which augments the heat of the body and accelerates the circulation, favors the menstrual molimen. Hence, rest in bed, in a warm room, hot-water bottles to the feet, hot stimulating drinks, are among the means generally advised.

Certain plants, as pennyroyal, wormwood, elder blows, the leaves of the black currant bush, of the hollyhock, saffron, catnip, etc. have been long used in domestic practice. Most nations have herbs of this sort in which they have faith. In the Northern countries, you will often hear prescribed malt beer, in which slices of horse-radish have been macerated in the cold for twenty-four hours; an ounce of the root to a pint of beer. After having obtained the maceration, it is sweetened, and the whole quantity drank during the day.

Saffron, which has had a great reputation as an emmenagogue, was first advised by Hahnemann, Dreysig, and Tommasini, either in the form of tea or powder; in the latter case, 15 to 30 grains combined with some preparation of iron.

The Japanese not only believe in the emmenagogue virtues of bananas, but consider this fruit as capable of producing abortion. Hence it is that Rumpf places bananas, among the emmenagogues.

With the same end in view, namely that of accelerating the circulatory movements and thus promoting ovulation and the menstrual flux, we often hear vapor baths prescribed, from one to three a day, conjoined with hot drinks, gin, spirits of Mindereras, etc.

Since Crindet first wrote on the marvelous virtues of iodine in suppressed menstruation, Trousseau and others have given considerable support to this metalloid as an emmenagogue; the dose is from 5 to 20 drops of tincture three times a day in sweetened water or some hot infusion, taken about the time of expected menstruation.

What I have said about all the empirical means in general, is applicable to the preparations of iodine. We do, now and then, see the menses return under their use, but this result is so inconstant and irregular, that we may well ask whether being *post hoc* it is therefore *propter hoc*.

By the side of these general excitants some advise to determine blood to the sexual organs and inferior members by means of sinapisms or blisters applied to the upper part of the thighs. For the same object, dry cups are applied about the thighs or hips, and even Junod's boot-cups, which embrace the entire length of the inferior extremities. Andruny, of Brionde, even devised a sort of cupping apparatus to be applied to the neck of the womb itself.

I must mention by the side of these local means, currents of warm vapor directed against the sexual organs; these may consist of the vapor of vinegar and water; or warm infusions of certain aromatic herbs—as pennyroyal, lavender, mustard, etc. The usage of these fumigations goes back to the time of Hippocrates,

who advised to conduct the vapor into the vagina by certain ingenious contrivances, as a peculiar shaped hollow gourd with small pointed end, the cavity of the gourd to be filled with hot water. Others have advised injections more or less irritating into the vagina. Lavagua was the first to recommend the employment of the strong liquor ammoniæ—10 or 12 drops to two great spoonsful of warm milk for one injection; two, and even three, of these injections to be given daily. Nicato's prescription for vaginal injection is 40 drops of liquor ammoniæ for one pint of decoction of barley, and one-half ounce of mucilage. This injection has become quite popular in France.

Electricity was recommended in asthenic amenorrhœa by Clark, Aldini, and others. —Golding Bird claimed twenty successful results out of twenty four cases of amenorrhœa attributed to torpor of the sexual organs; in ten of these cases the amenorrhœa had lasted from six months to one year.

I have indicated all these means because they can really, in some cases, be advantageously employed; at the same time, it will never do to lose sight of the fact that their success is entirely subordinate to the state of ovulation. The excitation which all these agents produce in the uterus may be propagated to the ovaries, and hasten the development of the Graäfian follicles whose evolution has been arrested. In these cases the uterine congestion, which at first was brought about by violent means, may end in taking on physiological proportions, and manifest itself by the menstrual hæmorrhage. But it will never do to expect an emmenagogue result when the ovulation is already definitely arrested, as, for example, in an advanced stage of phthisis, as well as in most other chronic affections. In insisting, under these circumstances, on the local stimulant treatment, one might possibly produce an inflammation of the womb, but never menstruation.

The good effects which are obtained in asthenic amenorrhœa from electricity, are doubtless due to the action of the electric current on the muscular fibres which exist in great quantities in the ovaries. These fibres make part of what has been called the *fibrous tunic* of the ovary, and it is in their meshes that we find, in the bulbous portion, the Graäfian follicles, which have already acquired a certain volume. It is easy to understand that the contraction of these fibres, often repeated, may restore the vitality of the vesicles a little benumbed (*engourdiés*), and thus favorably influence the return of the menses. At any rate, the emmenagogue effect of electricity is only realized after a long time. There is no sense in supposing that one can succeed in starting the menstrual flux at will, and, by dint of provoking contractions of the muscular elements, force the blood out of the vessels of the womb.

There are divers ways of employing electricity as an emmenagogue. Andrieux placed the patients in an arm chair whose seat was furnished at the front part with a copper ball which communicated by a metallic rod, perfectly insulated, with a metallic plate designed for the feet to rest on. When the patient sat down she was instructed to place the ball between the naked thighs, and the feet on the copper plate. At the moment of applying the electricity, these metallic conductors were put in communication with an electric machine, and the patient received the shocks about the inside of the thighs and the external genitals.

A good way to employ electricity is to apply one of the poles of an electro-magnetic battery to the vertebral column, and to pass the other up and down over the pubic and supra-pubic region, the perineum, and vulva. If desirable, one of the reophores may be introduced into the vagina and applied against the os uteri.

Among the indirect emenagogues may be mentioned the oxide of manganese, which has had the endorsement of Sidney Ringer. This medicament is given in pill form, and has a certain amount of testimony in its favor, though sure often to disappoint.

Other excitants act only after absorption and introduction into the circulation. It has been noticed that rue (*Ruta graveolens*), when taken into the stomach, has a special action on the womb. It irritates the mucous membrane of the stomach and abdomen, but at the same time its abortifacient action seems to be incontestible. The dose of the powder is 15 grains, three times a day; ruta is also given in infusion (℥ ij of the herb to Oj of water). Savin (*Juniperus sabinus*) acts in the same way, as do also all the coniferæ,—in general. Hence, it has been remarked that pregnant mares often abort after eating the leaves of the cypress tree. Savin readily produces in the human species congestions of the uterus which sometimes result in violent metrorrhagia.

These effects being recognized, it was natural to attribute to these plants an emmenagogue property, especially at a time when menstruation was considered as a simple uterine hæmorrhage. As before said, rue may be given in the form of powder, 15 to 30 grains *ter die*, or in infusion (℥ j to Oj of water); the dose of the extract is 15 to 30 grains; of the oil 5 to 10 drops on sugar.

Savin is given in the form of powder, from 5 to 10 grains, three times a day, being the dose; it is also given in infusion, one half drachm to a pint of water, the whole to be taken in the course of the day. It would be imprudent to exceed these doses. In the limits which I have just indicated, both rue and savin moderately congest the uterus, and the excitation may be

communicated to the ovaries. If the ovulation be sufficiently advanced, this artificial stimulation may sometimes precipitate the spontaneous discharge, and provoke the menstrual flux; but how infrequent are instances of this sort in comparison with the failures, so that, despite the incontestible action of these substances on the uterus, their emmenagogue power is entirely subordinate to the state of the ovulation; hence it would be wrong to consider them as absolute emmenagogues.

The same remarks apply also to ergot of rye. Its action on the womb during parturition being undeniable, physicians have supposed that ergot might also act on the uterus when empty, and congest it. But this is disputed. It seems demonstrated by experience, that in order that ergot may be able to excite strong contractions in the muscular fibres of the uterus, certain conditions are requisite.

If the action of ergot is apparent during the process of parturition, and even from the beginning of the second half of pregnancy, it has little effect on the uterine fibre at the beginning of gestation, and still less when the womb is in a state of vacuity. Lalesque, an old writer, cites the case of a woman, two months pregnant, who was thought to be affected with asthenic amenorrhœa. She took every day, as an emenagogue, a pint of decoction of ergot prepared by steeping one-half ounce of fresh bruised ergot in a pint and a half of water evaporated to one pint. This woman did not begin to experience any uterine contractions till after three weeks' employment of this infusion; then the mistake in the diagnosis was discovered, and the use of the ergot was discontinued.

Ergot has proved to be quite unreliable as an emmenagogue, and does not ordinarily have any effect of this kind except when dehiscence is ready to take place at the moment of administration of the medicament. It is not impossible, however, that the emmenagogue property of ergot, which has been noted by some good observers, may depend somewhat upon its action on the muscular fibres which surround the Graäfian vesicles, and contribute, even in the physiological state, to dehiscence. These smooth fibres, which are similar to those of the uterus, are probably impressible in the same manner, and sensible to the same excitations. If they are in the conditions which precede dehiscence, and the retardation of the latter is only accidental and momentary, the ergot, administered at such a time, may excite lively contractions and force the ovum out of its follicle. This would not be the case when, by reason of prolonged asthenia, the muscular fibres of the ovaries participate in the general state of enfeeblement of the muscular system of organic life; in such a case they would remain but little sensible to the action of ergot, and it would be only after a long usage of this drug, and when, especially, the entire economy had gained in force and in energy, that any emmenagogue effect would be realized.

All physicians have recognized in aloes an action on the large intestine, and particularly on the rectum. Who has not witnessed hæmorrhoids after its prolonged use? How natural then to suppose that aloes must possess emmenagogue virtues, especially when the hæmorrhoidal flux and the menstrual flux were considered as two analogous states before the theory of ovulation was understood?

Schœlein was the first to propose lavements of aloes as an emmenagogue; two drachms of aloes rubbed up in an ounce or two of mucilage. Suppositories of aloes have also been vaunted by Trousseau and others. I am not disposed myself to have much faith in this mode of treatment.

Some authorities have thought to promote menstruation by exciting sympathetically the sexual organs by applying sinapisms to the breasts, and others, as Desportes, have recommended leeches to the lower part of the mammæ.

Since Joret, in 1860, wrote on the benefits of apiol in amenorrhœa and dysmenorrhœa, this substance, which is obtained from the *Apium petroselinum*, has been much vaunted as an emmenagogue. Apiol has an undoubted action on ovulation by stimulating the genital sense. Thus far, favorable results have been obtained when it is a case of simple retardation; when every thing is ready for dehiscence, a very slight excitation—a sort of follicular sternutation or spasm—may suffice to bring on the vesicular and uterine hemorrhage which terminates the menstrual organism of the Graäfian vesicles. It is in this way that apiol seems to act. Several times I have seen return of the menses which were several days behind the time, by giving daily, for four or five consecutive days, two capsules of apiol. In amenorrhœa of long standing, apiol would evidently not have great power, but even here, it would be worth while to make the trial, as it can be given without the least fear of harm resulting from its administration. A favorite prescription of my own, consists of a syrup composed of decoctions of ergot of rye, the dried roots and seeds of *apium petroselinum* (parsley), and of saffron. This decoction is concentrated by boiling, and sweetened, forming an emmenagogue syrup agreeable to the taste, which is taken in the dose of a tablespoonful three times a day in asthenic amenorrhœa, and may be continued a long time without inconvenience. Generally, in a short time marked amelioration is noticed in the general health, and the menses do not long delay to make their appearance.

Daily Sitz baths of cold water have sometimes seemed advantageous in cases like those

I have been describing. This immersion of the pelvic organs ought not to exceed two or three minutes at most. It is generally followed by reaction accompanied by a sensation of heat in the pelvis, and this cannot but favor the congestion of the ovaries and uterus. It is indispensible that the patient should take exercise immediately after the hip-bath; that she should walk fast, run, or even dance, to facilitate the reaction which is the final end of the treatment.

To sum up: Materia Medica is far from possessing as many therapeutic agents capable of directly exciting ovulation as one would suppose from the number of medicaments designated by the name of emmenagogues.

We may distinguish in this category:

1. Simple general excitants.—These means will certainly sometimes be followed by the appearance of the menses when there has been a little retardation in the last act of ovulation. An augmentation of the heat of the body, a little acceleration of the circulation, may then suffice to rupture the capillaries engorged with blood under the influence of the orgasm, already commenced, which has only been arrested. Anæmic cases are sometimes markedly benefited by iron and arsenic, which, however, have only a general action.

2. Certain medicinal substances having a special action on the uterus, the rectum, or the bladder, as savin, rue, aloes, cantharides, etc.—The excitation which these medicaments produce on the organs contiguous to the ovaries, may easily extend to the latter. Let this coincide with the conditions of ovulation such as we have just supposed, and the excitation will suffice to overflow the full vesicle, and provoke the menstrual hæmorrhage. All these so-called emmenagogues are in a certain sense *sternutatories* of the ovaries. They disturb more or less these organs, and the shock which ovulation feels may bring about in a very short time the final or hæmorrhagic phase; but it is by this that their participation in menstruation is limited; only women who are about ready to menstruate are benefited by them.

3. Agents which seem to act more or less on ovulation.—The high temperature of the country which one inhabits, contact with men, the reading of romances, sexual excitations, etc.

Among the agents furnished by the Materia Medica, several seem up to a certain point to attain the same end. Such are, in the order of excellence (according to all probabilities): Electricity applied to the vertebral column and to the sexual organs, ergot of rye, and, perhaps, the active principle of the different kinds of *apium*. It might be worth the while to make new trials with nux vomica and strychnia. Now that we know that the external tissue of the ovaries is entirely composed of muscular fibre, and that the Graäfian vesicles most advanced towards maturity are surrounded by such fibres in the bulbous portion, we are warranted in having faith in the good emmenagogue effects of strychnia, which may give vigor to the muscular contractility when this is affected with atony, and act favorably on ovulation. The few trials which have been made with strychnia in amenorrhœa, seem to warrant the more extensive use of this drug. I should, therefore, be the more encouraged to resort to this alkaloid in atonic cases, from the success which I have had with it in metrorrhagia due (as I believed) in great part to relaxation of the muscular fibres of the erectile apparatus of the womb.

THE SELECTION AND RELATIVE VALUES OF THE ANÆSTHETICS.

PART I.

BY G. ARCHIE STOCKWELL, M. D., F. Z. S.*

The question of choice of an anæsthetic for general purposes, especially the more common surgical operations, is still a mooted one in many quarters. Ether, chloroform, nitrous oxide, methylene chloride, ethyl bromide, the so-called "A.-C.-E.-mixture," etc., each and all find ardent and even aggressive adherents, and among those of the highest professional rank and standing.

Periodically, also, there appear in the medical press, essays and discussions aiming to establish the superiority of one or another of these agents, but as these, for the most part, are from the pen of professed partizans, they contribute little to the sum total of our knowledge. Ether is well established as the "American anæsthetic," and of late has gained many notable adherents in Great Britain and on the Continent, so many in fact that it is now largely employed to the exclusion of other anæsthetic agents for all classes of operations—abdominal surgery and operations on very young children excepted. In tropical and subtropical climes, however, it has met with less favor, owing to the difficulty of obtaining of satisfactory purity, and of preserving when obtained.

Many of the objections that formerly obtained to ether, have been overcome by, inclosure in air-tight tinned packages; by the manufacture of a stronger and purer product especially intended for anæsthesia; by its manifest superiority as regards simplicity of administration, and freedom from anxiety and care on the part of the surgeon; and likewise by the comparatively few morbid conditions that contra-indicate its use. Still,

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there yet remain many conservative members of the profession who, through habit or prejudice, give the preference to chloroform, which it must be admitted is the more agreeable agent in so far as odor and rapidity of administration are concerned. Not a few, naturally perhaps, seek anxiously to restore chloroform to its former status and popularity as an anæsthetic, and consequently many spasmodic attempts have been made toward its rehabilitation. The latest and most notable of these were known respectively as the "English Chloroform Commission;" the "First Hyderabad Chloroform Commission;" and the Second *ditto*.

The first, composed of such notables as Gosselin, Anstie, Richardson, Ringer, and Vulpian, in spite of an admitted bias in favor of chloroform, reached conclusions markedly at variance with those of the two succeeding Commissions. Of the latter, the "*First*" was composed of Dr. Hehir, and Messrs. Kelly and Chamarette; the *Second* of Drs. G. Bomford, Rustomjé, Surgeon-Major Edward Lawrie, and T. Lauder Brunton, who associated with themselves also the members of the former Commission. The last-named gentleman was, presumably, added as a makeweight (as well as for his supposed preference for chloroform,) the evidence of which may be seen in the sensational reports disseminated by interested parties (though strenuously denied by Dr. Brunton) that before sailing for India he visited Pasteur to secure immunity from hydrophobia by a series of anti-rabic inoculations, and thus was saved what otherwise would have been a fatal accident.—It is claimed, however—though with how much reason, cannot now be determined—that this sensational announcement, made for specific advertising purposes, originated with Dr. Lawrie.

The First Hyderabad Commission reached practically the same conclusions as the Second. The teachings that it attempted to disseminate met with little attention, since (1) they controverted what were held to be established physiological facts, and (2) the individuals composing the Commission were practically unknown to the medical world, possessing no reputation as either teachers or original observers. It was for this reason the Second Commission was organized, and the *Lancet* of London asked to nominate one member—Dr. Brunton being thus chosen.

The history of these Hyderabad Commissions is interesting also, and aside from the distinctive "Chloroform" title, evidence that they were assembled for *ex-parte* purposes, and not for a general study of anæsthetics; also that the conclusions arrived at were foregone, even before work was begun. The *Lancet* (January 18th) admits that both owed their origin to Surgeon-Major Lawrie, who was animated, not with a thirst for precise knowledge, but with a desire to vindicate his late teacher, Prof. Syme—a well known chloroform partizan—who was wont to assert that this agent might be administered as an anæsthetic with perfect safety, provided the administrator watched the respiration with due care. To give still further *eclat*, the Nizam of Hyderabad was induced to associate his name with the Commission and to contribute liberally to its support, beside giving it the sanction of his Government.

The report of this last "Chloroform Commission," as given by the *Lancet*, conveys the intelligence that 430 experiments were performed, 360 of which were on the pariah dogs of India—creatures whose physiological relations are not at all well understood, and whose lives, far from approaching those of domestic canines are more nearly allied to the feral *canidæ*—and 70 monkeys—the latter chosen under the mistaken supposition that like physical conformation begets like physiological characteristics. The experiments, as announced, were undertaken to demonstrate:

The effect upon blood pressure, heart, and respiration, of the inhalation of chloroform, ether, and the A.-C.-E.-mixture (alcohol, chloroform and ether), administered in various ways and under varying conditions.

The fact, however, that 109 pints of the first named fluid were expended against but 11 of ether, which last must also have furnished no inconsiderable portion of the triple compound named, is to most minds corroborative evidence that the experiments were undertaken, primarily and solely, for the purpose of vindicating the preceeding Commission,—all of whom were associated with this Committee—*et al.* Indeed this is practically admitted in a second statement of the objects of the Commission which are given as:

I. To test the suitability and safety of chloroform as an anæsthetic.

II. The effect of pushing the above named anæsthetic (*a*) to a dangerous degree, and *more especially till respiration ceases;** (*b*) until death results.

III. The modifications in the effects of these anæsthetics which result from (*a*) asphyxia in varying degrees and produced by various means; (*b*) from the use of drugs such as morphine, atropine, physostigmine, and others.

IV. The reality or otherwise of the alleged liability during ordinary chloroform administration to the occurrence of primary or secondary syncope or stoppage of the heart, brought about either by shock or through fatty or weak heart, or hæmorrhage, or by change in the position of the body. * * * *

V. The effect of the anæsthetics above mentioned upon different animals, more especially monkeys, as the nearest approach to human beings.†

* The italics are mine. Author.

† This premise, founded on the supposition that like physical conformation begets like physiological conditions and attributes, is possessed of neither reason or fact. No comparative physiologist would have fallen into this error.

The conclusions deduced, briefly summarized, are as follows—the paragraph numbers refering to the report as embodied in the *Lancet* of London, of January 18th:

Chloroform, when given continuously by any means which ensures its free dilution with air, causes a gradual fall of the mean blood-pressure, providing the animal's respiration is not impeded in any way. * * * If the chloroform is less diluted the fall is more rapid, but is always gradual so long as the other conditions are maintained; and however concentrated the chloroform may be, it *never causes sudden death from stoppage of the heart* (Paragraph No. 1). * * * The theory which has hitherto been accepted is that danger in chloroform administration consists in the stoppage or slowing of the heart by vagus inhibition. This is now shown to be absolutely incorrect (Paragraph No. 18). * * * "Granting, then, the truth of Ringer's conclusions from experiments upon the frog's heart (which have not been repeated and confirmed by the Commission) that chloroform has a gradual paralyzing effect upon the heart-tissue, we must conclude that such an effect, in the degree in which alone it could occur in the practical inhalation of chloroform, would rather be a source of safety than of danger" (Paragraph No. 19). * * * In * * * the case of a dog that had had morphine, remarkable slowing and even temporary cessation of the heart's action occurred again and again at the same moment respiration stopped, but the heart invariably recovered itself * * * the failure of the heart, if such it can be called, instead of being a danger to the animal, proved to be a positive safeguard, by preventing the absorption of the residual chloroform and its distribution through the system" (Paragraph No. 22).

Morphine appeared * * * to render the rise of blood-pressure that occurred when chloroform was discontinued, slower and less complete, and to bring about a more or less permanent condition of anæsthesia" (Paragraph No. 31). * * * The other drugs had no effect upon the action of chloroform, except when their own special action became the leading feature in the case" (Paragraph No. 32). There is nothing to show that atropine does any good, * * and it may do a great deal of harm ("*Practical Conclusions*" No. XIII).

Chloroform has no power of increasing the tendency to either shock or syncope during operations. If shock or syncope from any cause does occur, it prevents rather than aggravates the dangers of chloroform inhalation" (Paragraph No. 37).

The experiments on dogs that had been dosed with phosphorus for a few days previously, show that the fatty and consequently feeble condition of the heart and other organs so produced, have no effect in modifying the action of chloroform. * * * Numerous attempts were made in these animals to produce shock by operations in recumbent and vertical positions, but without any more result than in those that were healthy (Paragraph No. 38). The truth about fatty heart appears to be that chloroform *per se* in no way endangers such a heart; but, on the contrary, by lowering blood pressure, lessens the work the heart has to perform, which is a positive advantage. But the mere inhalation of chloroform is only a part of the process of administration in practice. A patient with an extremely fatty heart may die in mounting the steps in front of his own hall door, or from fright at the mere idea of having chloroform, or of undergoing an operation, or during his involuntary struggles. Such patients must inevitably die occasionally during chloroform administration, and would do so even were attar of roses, or any other harmless vapor, substituted for chloroform (Paragraph No. 39).

As regards the effect of chloroform upon different animals, it may be said to be the same as far as its anæsthetic action is concerned (Paragraph No. 42). * * * The cases * * * are quite sufficient to show that animals are just as liable to death from careless administration of chloroform as human beings; and the accidental deaths which occurred during the experiments of the Commission, afford the best possible proof that the effects of chloroform are identical in the lower animals and in the human subject. The statement so frequently made that dogs are more resistant to chloroform than human beings, is entirely incorrect. (3d paragraph under caption of "Accidental Deaths.")

The experiments with ether show that it is impossible to produce anæsthesia with this agent unless some form of inhaler is used which thoroughly excludes the air (Paragraph No. 45). If surgeons choose to be content with a condition of semi-anæsthesia, it can, no doubt, be produced with perfect safety, though with discomfort to the patient, by ether held rather closely to the mouth. Such a condition of anæsthesia would never be accepted by any surgeon accustomed to operate under chloroform. If more perfect anæsthesia is required, it can be procured by excluding the air more rigidly, *but then there is exactly the same danger as in giving chloroform* (Paragragh No. 46).

Careful perusal of the foregoing, which embody the most salient points, will, to the mind of the impartial reader, be sufficient to impugn their value; they are in fact self-condemnatory. Further, the evidence presented, in spite of the manifest bias in favor of chloroform, and eager desire to condemn ether, is very far from being to the effect that it is *other than easy* to induce a fatal result through the administration of the former anæsthetic, but that, with proper precautions, lethal accidents may in many cases be averted.

This certainly is no new information to anæsthetists.

The assertion, however, that is implied if not made (Paragraph No. 46), that chloroform is superior, or at least equally safe with ether, is erroneous, and founded upon ignorance—duly manifested on the part of the Commission—of the latter drug, and of its mode of administration; it will be news to most surgeons that they generally procure only a semi-anæthesia. All in all, this is a most misleading and unfortunate paragraph, and has led the friends of chloroform to boldly give utterance to such pernicious and unwarranted statements as: "It has now been demonstrated that this anæs-

thetic may be given in any case requiring operation with perfect safety and ease." And even the *Lancet* commits itself editorially in the following (January 18th):

The practical outcome of the research would appear to be that deaths from chloroform are not inevitable; they are therefore preventible, and *by due care* in the administration *they may be with certainty avoided.*

It may well be queried whether the editor of the *Lancet* appreciated the full force of his remarks. Certainly, if they are to be taken as they read, it is implied that a death from chloroform, under any circumstances whatever, or in any given case, would demand the prosecution of the surgeon, his anæsthetist, or both, under the charge of manslaughter.

According to Dr. Lawrence Trumbull, nearly four hundred deaths are definitely recorded as due to chloroform anæsthesia. If the unreported cases are likewise estimated, it may easily be surmised that the total amounts to at least five hundred—a figure more than treble that assigned to ether, many of which latter are, moreover, of doubtful character. The cases also impugn the skill, competence, and care, of some of the most distinguished authorities, including Sir Jas. Y. Simpson, Billroth, Volkmann, Sir Geo. H. B. McLeod, J. Farrant Fry, Francis W. Clark, Prof. Syme, Hunter McGuire, W. A. Hammond, James Wood, Willard Parker, F. H. Hamilton, Alden March, Moses Gunn, W. W. Dawson, and many others. Under the ruling of the *Lancet*, then, many of the most eminent surgeons are to be condemned as bunglers—or worse! The truth of the matter, however, is, that no medical man presumes to administer any anæsthetic without "*due care*," for the very source and foundation of the physiological phenomena that give rise to anæsthesia, must ever be sources of danger.

That chloroform is not as safe as ether, we have the evidence of scores of competent medical men as witnesses, not alone in the United States, but in Great Britain and Ireland, and upon the Continent of Europe. So recently as February 10th, at the Medical Society of London, Mr. Bailey and Mr. Woodhouse Braine, two of the ablest and best known of British anæsthetists, gave unequivocal testimony in favor of ether, and claimed—and most justly—that this anæsthetic "has obtained the preference by the great majority of surgeons." Mr. Teale, also, at the last session of the British Medical Association (Leeds, Aug. 13–16th, 1889), made practically the same remarks, and added, that since substituting ether for chloroform he "had no anxiety whatever; the patients get well; the operations are simplified; and there is in every instance perfect anæsthesia."

It has been generally taught that the fatal results of chloroform were due to cardiac arrest. This the Commission deny, claiming instead paralysis of respiration, basing their conclusion on the experiments conducted on dogs. It must be remembered, however, in spite of the dictum pronounced that the results are identical in man and lower animals, that such is without force, coming as it does from individuals possessed of but the most meagre knowledge of comparative physiology; moreover, the statement is false in more than one particular. Dogs are not human beings, and repeated research and experiment has proven that exact parallels are impossible. To morphine, the Commission say, "pariah dogs are very indifferent." Such is not true of domestic canines,† which are peculiarly sensitive to opium, and its derivatives, a very minute dose, comparatively, proving lethal (Youatt, Mayhew); this has been repeatedly proven to me by personal experience. Even domestic canines of the same precise breed, vary materially according to latitude, altitude, climate, and concomitant surroundings, much more so than human beings; and the dogs of Europe have the vascular system much greater developed than those of America, whereby operations upon the former are attended by much more profuse hæmorrhage. Profs. Wood and Hare justly remark: "We have given elaterium to dogs until it has caused death, but it has not purged. Suppose that every dog in India had had administered to it elaterium without the production of purgation, would that prove that elaterium does not purge man?*"

Again, regarding the absence of *shock*, and inability to produce the phenomena thereof in the animals experimented upon, and upon which no inconsiderable stress is laid, it is well known to comparative physiologists that, while shock may obtain in higher degree than in man in some animals (notably in domestic cats from the administration of chloroform), such is practically non-existent in most feral creatures, especially of the species *canidæ*.

Again, for all 360 pariah dogs of India have died through respiratory failure as the result of the administration of chloroform, it must be remembered that a far greater number in England, America, and Germany, under precisely similar circumstances, have met death from cardiac arrest. We may believe, also, that in many instances, animals to whom lethal doses of chloroform vapor are administered, do succumb to pulmonary paralysis, but it is denied by all clinical observers that this is an invariable or even common sequel in human subjects; the majority of deaths in the latter are inconsistent with the view of respiratory paralysis. It is, however, generally conceded, I believe, that chloroform fatalities *may* be induced,

* Medical News, Feb. 22d, 1890.
† The pariah dog is practically *feral.*

in animals, through either pulmonary or cardiac paralysis, or both, according to the method in which the drug is administered.

Since the report of the Commission, a series of parallel experiments have been undertaken by Professors H. C. Wood and Hobart A. Hare, of the University of Pennsylvania, which have an important bearing. They say:*

As we use between us, in the laboratory of the University, many dogs yearly, a very large proportion of which are finally killed by chloroform, we may be excused for our positive assertions that chloroform *is a cardiac paralyzant*, and does kill dogs by direct action upon the heart or its contained ganglia; especially since we have been strengthened in our opinion by the fact that Dr. Reichert, Professor of Physiology in the University, has reached results confirming our own, and has frequently demonstrated the same to the University classes. * * * It has been the custom of one of the authors of this paper, in his lectures before the University class, to demonstrate by means of the respiratory tambour, the mercurial manometer, and the kymographion, a continuation of respiratory movements after cardiac arrest through chloroform. Further than this, we have at various times taken tracings proving the same facts.

The statements that have been recently made in the Indian journals, and in the London *Lancet*, have led us to re-examine the subject, and to make a series of experiments upon it with great care. We have also varied and extended these experiments in order to determine whether chloroform paralyzes the heart by direct influence, or by an indirect action through the vagus. * * * In all cases accurate tracings have been made by means of the kymographion and the respiratory tambour.

* * * * * * * * * *

The experiments * * * show that chloroform acts as a powerful depressant poison upon both respiration and circulation; that sometimes the influence is most felt at the heart, and death results from cardiac arrest; that in other cases the drug paralyzes primarily the respiratory centres, whilst in other instances it seems to act with equal force upon both medulla and heart. So far as practical medicine is concerned, it makes little difference whether the heart stops just before or just after respiration, so that those cases in which cardiac and respiratory arrest are almost simultaneous, are, for the purposes of the clinician, the same as those in which heart arrest precedes respiratory paralysis. Finally, the results of our new experiments also coincide with our previous experience in the laboratory, and with what we believe to be the general belief of physiologists—that cardiac arrest is specially prone to occur when chloroform is administered rapidly and in concentrated form.

Aside from the errors already noted as embodied, there are several other serious flaws in the work of the Commission:

First.—We opine it will require something more than mere assertions, backed by phosphorus experiments upon dogs, in whom any danger from shock is practically, if not wholly, non-existent, to convince the medical profession at large, that the inhalation of chloroform vapor by a human patient possessed of a fatty heart, is as inoccuous as a whiff of attar of roses.

Second.—In spite of the fact that so well known a gentleman as Dr. Lauder Brunton has been enlisted in the affirmative, it must be remembered that the able editor of the Practitioner is a *physician* and not a *surgeon*, the distinction being very sharply drawn in practice as well as by title in Great Britain. The practical clinical experience of the *physician* with anæsthetics, is as nothing when compared with that of the *surgeon:* and though Dr. Lawrie is of the latter class and rank, it must not be forgotten that he was, and is, the exact antithesis of an unbiased observer, having long asserted in the most positive and agressive manner, opinions in exact accordance with the findings of the Commission of which he was a member.

Third.—The climate of India is such that it is impossible to obtain or preserve pure ether, so that only an impure product was obtained for the experiments carried out by means of this anæsthetic.

Fourth.—The investigations consisted solely of laboratory work, as to the value of which a large number of medical men, surgeons especially, must entertain serious doubts.

Fifth.—It must be admitted, also, that when laboratory experiments clash with clinical observations, the latter must have precedence; the former only lead the way to clinical studies whereby the final verdict must be determined.

Finally, the truth regarding chloroform appear to be that, while its administration in dilute doses tends to heart paralysis in man, in more concentrated form it may induce both cardiac and pulmonary arrest. These facts alone evidence the superiority of ether as an anæsthetic, in which the sole danger, so far as lethal exit is concerned, is from paralysis of respiration. Most of us have seen, or are familiar with, unavoidable, serious, and even fatal accidents from chloroform, yet very few have ever witnessed any untoward results from ether if carefully and understandingly administered. Again, it must be remembered that chloroform requires a carefully graduated admixture of atmospheric air—not to excede three per cent.—since five per cent. is admitted to be attended by fatal consequences.

Strange to say, while the most ardent supporter of ether is usually, ever ready to concede the superiority of chloroform in obstetrics and certain specific operations, the friends of the latter appear unwilling to concede anything to its rival.

All in all, the Chloroform Commission has demonstrated only, that in the administration of chloroform every care and attention should

* Medical News, Feb. 22d, 1890.

be given! But is it possible that we required the Nizam of Hyderabad and a manifestly partizan Committee to teach us this! And it may readily be surmised that the real outcome of this inquiry, will be the authorizing of other Commissions, and a revival of the almost forgotten Ether-Chloroform conflict of 1866-68. If personal experience and testimony may be of any value, I may say that up to 1880, I was a strong adherent of the former faction, but my conversion was positive, and attended by a most practical and thrilling experience, by no means due to inattention or lack of care.

In the succeeding paper, I shall discuss more particularly the relationships of anæsthetics, including nitrous oxide, ethyl, etc.

203 Grandy Avenue, Detroit, Michigan.

CLINICAL NOTES.

SPERMINE MURIATE.

S. T. Anderson, M. D., Ph. D., of the U. S. Marine Hospital service, who obtained a sample of this alkaloid for experimental purposes, gives his experience as follows:

CASE I.—W. McF., aged 38 years, native of Scotland, treated in U. S. Marine Hospital wards of Lakeside Hospital, Cleveland, Ohio, since December 5th, 1888, for secondary syphilis, syphilitic cachexia, and syphilitic inflammation of posterior columns of cord.

The patient was suffering from the two latter features of the constitutional disease, when, on January 10th, 1890, he was given a hypodermatic injection of spermine (kindly furnished me by Messrs. Parke, Davis & Co.), grains $\frac{1}{15}$. There was no acceleration of pulse, temperature, nor other symptoms following the injection. Injections were given on the 11th, 13th, 14th, 16th, 18th, 20th, 22d, and 24th; each injection was made into the pectoral muscles, but no improvement was perceptible.

CASE II.—J. W., aged 39, native of America, has been treated for advanced posterior spinal sclerosis of a year's standing. On January 14th, 16th, 18th, 20th, 22d, 24th, and 26th, a hypodermatic injection, grains $\frac{1}{15}$, was administered into the pectoral muscles. As in the preceding case, no symptoms followed the injection.

CASE III.—J. W., 46 years old, American, had been under treatment for constitutional syphilis for six months. He suffered with osteocopus, and is very susceptible to cold weather. January 16th, he was given a hypodermatic injection of spermine, grains $\frac{1}{15}$. No effect followed the injection, and it was not repeated.

CASE IV.—C. D., aged 34, a native of Ireland, had been treated for multiple neuritis since Dec. 18th, 1889. His condition was improved, but the restoration of function in the left sciatic nerve had not occurred. He was given hypodermatic injections of spermine grains $\frac{1}{15}$, in the left gluteal region, on January 11th, 14th, 6th, 18th, 20th, 22nd, 24th and 25th. No improvement followed the injections, and—as in the preceding cases—there was no systemic phenomenon.

The experience with this alkaloid does not justify any expectation of beneficial results from its administration in chronic cases.

SAW PALMETTO.

Dr. S. W. Waters, of New Bedford, Mass. writes that he cannot find words to express his high appreciation of the therapeutic value of this drug.

CASE 1.—A young man aged 22 years; nocturnal emissions; frequency in urinating, acting reflexly on the brain. Gave saw palmetto which completed a cure.

CASE 2.—Aged 42 years; a masturbator in his early years. For the past twenty years has suffered from impaired sexual power, with wasting testes; also urinary trouble—dribbling and lack of power of propulsion. For four weeks I treated him exclusively with saw palmetto, in 2 drachm doses three times per day. He now appears entirely well; micturition is relieved, and the dribbling and lack of force entirely overcome; also the improvement in sexual power has been steady and most gratifying.

CASE 3.—*Myself*—54 years of age.

Some 20 years ago I fell on the ice, injuring the spinal cord; could not stand on my feet for three or four weeks. Since, at different periods, have had trouble with kidney and bladder. Six months ago had chronic cystitis and intestinal disturbance. Since have been troubled during micturition, and with a continual dribbling; likewise indications of enlarged prostate and also impaired sexual power.

Six weeks ago I commenced taking saw palmetto, with the result that I am now entirely relieved; micturition is normal, all dribbling stopped, and sexual power restored.

GOLTNA.

Dr. Wm. B. Dunstone after extended experience with this drug, arrives at the following conclusions:

In small doses it has a slight tendency to provoke emesis, which, however, is not observed when the dose is increased. It is not in any sense a diuretic, but is a most decided laxative and hepatic stimulant, of especial value in torpidity of liver and intestines, and those maladies directly dependent on non-assimilation and lack of tone of stomach and *primæ viæ*. In so-called bilious conditions, it serves as an excellent substitute for calomel, inducing profuse watery discharges with excess of biliary matters, and accompanied by almost

intolerable fetor; it induces neither griping or discomfort, and its most remarkable action is, that profuse catharsis exerts no influence, reflex or otherwise, upon the stomach.

Five drop doses of the fluid extract induce a genial glow of warmth in the stomach and bowels; slight increase of circulation that, however, is not manifested by any quickening of pulse, or otherwise than by temporary flushing of the face. Ten drops secures a laxative action in less than three hours. Fifteen to seventeen drops provoke catharsis, and at the same time stimulates the appetite, giving new zest thereto. In six to ten drop doses it expeditiously relieves the stomach and intestines of accumulated gas. With scarcely an appreciable effort it liquifies the contents of the *primæ viæ* from the pylorus to the rectum, indicates a call to stool with the gentlest of reminders, and in season or out, causes, in small doses, a natural stool without purging. In this respect it is the superior of cascara sagrada, and especially valuable in the intestinal torpor of old people. In no senses does goltna ever appear as in any way depressing or deleterious, but quite the reverse.

Correspondence.

PARIS LETTER.

PARIS, February 28th, 1890.

A NEW REMEDY FOR MALARIA.

At the recent meeting of the Academy of Medicine, Prof. Dujardin-Beaumetz read a paper upon a new remedy for intermittent fever. It is a plant cultivated in France, and bears the name of Panbotano. The bark is the part employed, and contains a resin, a certain non-crystalline substance, and a large proportion of tannin. As yet, no alkaloid has been found.

Thirteen observations were presented, of cases of intermittent fever treated by this remedy, and as a rule, one or two doses were sufficient to cause the fever to disappear. If the medicine be taken on a full stomach, it sometimes produces nausea. The future of this remedy cannot be predicted, as its alkaloids are as yet unknown. It seems to act well; and the Academy passed a resolution thanking the Doctor for his researches and encouraging him to continue them.

An interesting and practical contribution to the literature of maladies of the stomach, has just appeared in the Gazette des Hopitaux, from which I make some extractions.

One chapter is devoted to the differential diagnosis between cancer of the stomach and other affections of that organ. As to the differentiation from ulcer, it is generally easy. The victim of gastric ulcer is generally a young person; the pain is very characteristic, definitely localized in the pit of the stomach, with a corresponding point at the vertebral column, and ordinarily very intense; the attacks of vomiting are constant and obstinate, consisting of blood unmixed with food; there is no tumor to be felt at the epigastrium, as in the case of cancer; the gastric juice is abnormally acid; the disease, after presenting various phases of aggravation and improvement, ends in recovery. The favorable influence of the milk diet, along with the employment of the alkalies in large doses, is most manifest. As to the symptoms of gastric cancer, it will suffice to take the opposite of those just given for ulcer. The patient has generally passed middle age; he suffers, but the pain is generally moderate in character, and there is no corresponding point on the vertebral column; the attacks of vomiting are less frequent, and the hæmatemesis occurs in the form of black vomit, resembling coffee-grounds, and is formed in part by portions of food. An induration can be felt in the epigastric region, and analysis of the gastric juice shows the absence of free hydrochloric acid and loss of digestive power.

Unfortunately, alongside of these typical and well-defined forms of ulcer and cancer, there are all sorts of gradations and anomalies, well calculated to deceive the clinician.

Thus an individual, comparatively young, may be attacked with cancer, and on the other hand, an older person, well past middle life, may be affected with gastric ulcer.

The pain may be moderate in ulcer, and become exceptionally severe in cases of cancer.

There are numerous cases of cancer in which no tumor can be felt, while on the contrary there are a certain number of ulcers in which on account of the thickening of the margin, the sensation of a tumor is perceived on palpation.

The sign of greatest value is the hyper-acidity of the gastric juice in cases of ulcer, and the habitual absence of free hydrochloric acid in cancer. Even here it must be mentioned that sometimes the hydrochloric acid is present in normal or even exaggerated quantities in cases of cancer, and on the other hand a few cases of ulcer have been noted where there was even diminution in the quantity of this acid.

Finally, it must be recognized that occasionally, under treatment, cases of cancer show a certain improvement which, however, is never more than transitory.

Another factor which may render the diagnosis still more difficult, is the possibility of the development of cancer as the result of ulcer.

It was formerly supposed that these two diseases could not exist together, but it is now known that cancer may follow an ulcer, or even develop at the same time.

In 106 cases of carcinoma of the stomach, the the autopsies revealed 8 cases of ulcer combined with cancer. In two cases the cancer had developed upon the margin of the ulcer. In two other cases the two processes had developed side by side. The following curious case illustrates how one may be deceived in the diagnosis. A patient, 60 years old, presented most of the signs of cancer, and moreover a tumor could be felt in the epigastric region. As a result of treatment and the milk diet, the tumor disappeared and the health was reestablished. Some years later, the same symptoms, as well as the tumor, appeared for the second time, and under appropriate treatment again disappeared. The case was really one of simple ulcer, situated so close to the peritoneum as to produce a local peritonitis which simulated a tumor. When the ulcer cicatrized the peritonitis disappeared, and with it the tumor.

The differential diagnosis between cancer and chronic gastritis is really impossible in certain cases, and the majority of cases of pseudocancer, published of late years, should really be called sclerotic gastritis.

The following observation, of the celebrated Prof. Trousseau, is a case in point. The patient was a man who had been affected for several months with loss of appetite, and incessant vomiting both of food and of mucous.

He was considerably emaciated and had even the straw-yellow hue of the skin which is considered so characteristic. Trousseau made the diagnosis, without hesitation, of cancer of the stomach, but great was his astonishment when the patient grew better as a result of the treatment, and at the end of five months left the hospital completely cured.

Another case, was that of an old lady 72 years old, in which the diagnosis of cancer of the pylorus had been made. She was put upon the milk diet, grew better and better, and at length recovered her digestive powers. As to her pretended cancer, it was nothing more than sclerosis of the pylorus in relation with generalized arterio-sclerosis.

In short, as was said at first, it is extremely difficult, and sometimes impossible, to differentiate between chronic gastritis and cancer. The anorexia, attacks of vomiting, tumor and cachexia, are found in one malady as well as in the other.

It may be stated, however, that, as regards the cachexia, the patients retain for a long time a certain freshness even when emaciated, and it is only at a later period that the genuine cachectic hue appears, which may be confounded with cancer.

In this case, the treatment is not by any means a certain sign of difference, for chronic gastritis is often most obstinate, whereas, cases of cancer have often periods of arrest of development or even amelioration.

Idiopathic dilatation of the stomach may also be confounded with cancer, as the cachexia and vomiting are also to be found in this malady.

Moreover, the complication phlegmasia alba dolens, is to be found in both affections.

The best sign we have in this case is the improvement produced by washing out the stomach.

At the last meeting of the Paris Surgical Society, the important question of the curetting of the uterus was discussed at length.

Dr. Bonilly had performed this operation 87 times in the last two years for the cure of endometritis. The operation was performed after the ordinary non-surgical methods of treatment had failed.

The symptoms which call for the operation are as follows: Metrorrhagia and menorrhagia, mucous or muco purulent discharges, pains in the uterus. He had never allowed himself to perform the operation for the pain alone, but only in those cases where endometritis was present.

He almost always chloroformed the patient, and was convinced that it was necessary in order to perform the operation properly. The operation was performed after dilatation by laminaria tents, which was almost painless; ordinarily but three tents were required. After curetting, he injected the uterus either with tincture of iodine or a solution of creasote in glycerin.

In the case of hæmorrhagic endometritis he made use of chloride of zinc. As a dressing he filled the vagina with iodoform gauze.

He had never had any serious complication. Four times a slight sensibility was observed at both sides of the of the uterus. The operation often gave rise to a sort of abdomeno-pelvic uneasiness, which disappeared at the end of twelve or twenty-four hours.

Dr. Bouilly had only been able to follow 69 of the cases operated upon. Out of these there were 39 cures, 15 improvements and 15 failures. The cures had been particularly remarkable in cases of hæmorrhagic endometritis.

The fifteen failures were owing: 1st, to the poor manner in which the operation was performed; 2nd, to the reinfection of the genital passages after the operation; 3rd, to the existence of a variety of endometritis not curable by the operation; 4th, to the existence of complications with the ovaries and tubes.

The vaginal injections which the patients take after the operation, are often the cause of new infection, as the nozzle of the syringe is usually a nest of microbes.

In the cervical form of glandular endometritis, there is an extremely tenacious mucous which resists the curette, and moreover, the

glands are infected down to the bottoms of their culs-de-sac where the curette cannot reach.

In conclusion, Dr. Bouilly declares that the operation of curetting is a precious resource, and one not to be replaced by other means.

The best indication for the operation is the existence of hæmorrhagic endometritis. The operation succeeds but poorly in the cervical form of glandular catarrh.

W. F. ROBINSON.

MANAGEMENT OF A CERTAIN TYPE OF DYSPEPSIA.

EDITOR MEDICAL AGE:

Dear Sir:—I should very much like to see expressed in the columns of the AGE, your views on the treatment of (and remedies for) a type of dyspepsia very rarely brought to notice in medical journals. I refer now to cases in which there is a lodgment of gas in the transverse colon, causing inflation of the same, and consequent crowding up of the diaphragm with pressure upon the heart, giving those subject thereto an impression of heart-trouble, along with other nervous phenomena. The common remedy is an antiseptic, say charcoal, but this is generally insufficient.

Very respectfully, L. B. BATTIN.

ELIZABETH, NEW JERSEY, March 10th, 1890.

This is a condition that arises solely from imperfect digestion leading to an accumulation of effete products. It is usually readily relieved by thoroughly cleansing the primæ viæ and restoring gastric and intestinal *tone*. It is possible the new remedy *Goltua* (see Clinical Notes, p. 133) will prove of especial value here. Our own preference has been for an initiatory dose of calomel, gramme 1., to which is added gramme 0.20 of camphor monobromide, and gramme 0.30 of comp. ext. of colocynth; this followed by full doses of euonymin, along with cerium oxalate, ipecac, nux vomica, and quinine muriate. Pepsin is often advantageous; as is also, more especially, pancreatin, the latter if administered a few minutes before eating.

Another agent that often proves of especial value is the hydrated succinate of per-oxide of iron, administered during the course of each meal. This with cascara sagrada and nux vomica proves a good secondary treatment—*i. e.*, after the euonymin, etc , have restored the functions of liver and intestines. Mineral acids, combined with bitter tonics, are often advisable, in connection with the hepatic alteratives, beginning two or three days after the calomel has acted. In many cases nothing acts so well as the old-time "black draught"—sulphate of soda and senna.

Regarding antiseptics, there are none better than the physiological ones combined in the biliary and pancreatic secretions, and these are stimulated by the treatment indicated. —ED].

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Editorial.

THE PHYSIOLOGY OF SLEEP.

In the adaptation of organisms to the waste of the day and the repair of the night, Herbert Spencer sees an example of that principle of survival of the fittest, on which he so much insists. "The alternation of day and night entails an alternation of greater or less facility for actions, and there has resulted in organisms an adapted alternation with relative rates of waste and repair. An animal so constituted that waste and repair were balanced from moment to moment throughout the twenty-four hours, would, other things being equal, be overcome by an enemy or competitor that could evolve greater energy during the hours when light facilitates action, at the expense of being less energetic during the hours of darkness and concealment. Hence there has necessarily established itself that rhythmical variation in nervous activity which we see in sleep and waking." (Psychology, vol. i, p. 88.)

The sleep state is one that normally follows that fatigue which is the expression of waste unbalanced by repair. There is a diminution of cerebral molecular energy, owing to diminution of force giving intra-cellular material. All the cerebral functions are languidly performed; the heart and lungs participate in the lessened production of force; the lingering blood-current contains relatively an excess of carbonic acid, which adds to the depression by hindering metabolism. There is a lessened blood-flow to the cortical centres which are the seat of thought, consciousness, and volition; and there is a torpor or *engourdissement* of the cerebral cells. We are ignorant of the precise mechanism, but we know that ordinarily it comes about through fatigue; Preyer says that it is a species of intoxication caused by retention of the waste products of denutrition, one of which is lactic acid.

There are several facts that go to support this theory of Preyer. "We know by experience," says Germain Sée, "how much more corporeal fatigue predisposes to sleep than simple fatigue of the brain. The efficacy of

exercise, of gymnastics, is a well known fact in this connection."

Unfortunately for the lactic acid theory, it has been shown that while lactate of soda, given experimentally, produces fatigue, muscular and articular pains, and a general sensation of discomfort, it does not produce sleep. But, as has been remarked, lactic acid is not the only toxic product of the living economy; every cell is a laboratory producing poisons, *leucomaïnes*, which exercise their injurious effect on the organism as soon as the emunctories are incompetent to perform thoroughly their tasks. It is in the urine that we find the greater part of these excrementitious products. Bouchard, who has made many interesting experiments on animals by injecting the urine of various physiological and pathological states, finds that the urine of the day possesses a toxicity twice as great as that of the sleeping state, and the former produces narcosis, while that of the night possesses convulsivant properties.*

From this experiment, the inference is drawn that during the period of waking activity, the processes of disassimilation give rise to products which by their accumulation produce sleep, and this accumulation takes place because the elimination of these substances by the urine goes on the more slowly the nearer we approach the usual period of sleep. On the other hand, during sleep, the convulsivant substances which result from denutrition, cooperate in bringing about awakening.

This toxic theory of sleep finds still further support, according to Prof. Sée, in the fact, which is of force only as an analogical argument, that one of the symptoms of fowl cholera is somnolence. If now the sterilized and filtered liquid of a culture of the microbe be injected in an animal, it is not cholera that is produced, but sleep, just as if some active somniferous substance had been injected.

The only other chemical theory that can be said to rival that of Preyer, is that of Pflüger. Like Preyer, the latter connects sleep with the processes of disassimilation. Brain work demands a constant supply of nutritive materials and oxygen. During the waking hours, waste gets ahead of repair, and carbonic acid and other products of disassimilation accumulate in the blood and tissues. The presence of oxygen in the cerebral cells, combining incessantly with the carbon of albuminoid matters, determines veritable little explosions which keep up a constant excitation of the cerebrum, whence arises the waking state. When the oxygen of the tissues diminishes by reason of its consumption, the cause of the excitation is lacking, and sleep is produced. Sleep is a time for storing up oxygen, and waking takes place when the oxygen has accumulated in sufficient quantity to produce an effective excitation.

* Médecine Moderne, 1890, p. 183.

THE LATE HYDERABAD CHLOROFORM COMMISSION.

Elsewhere in this issue of the AGE will be found Part First of a paper on Anæsthetics. As is but natural, just at this time, the author devotes no inconsiderable attention to the late Hyderabad Commission, whose report has excited considerable discussion in various quarters, especially from the fact that it aims to overthrow teachings that have hitherto been considered as well grounded.

The intimation that chloroform expends its toxic effect in paralysis of the respiration, and only incidentally upon the heart; that a fatty heart is a source of safety rather than of danger; that ether is no more safe than chloroform, and the latter as regards *shock* as innocent as attar of roses;—all these will scarce be accepted by the mass of the medical profession without more positive evidence than can be afforded by a Commission whose avowed purpose was the rehabilitation, so to speak, of chloroform, the vindication of a former Commission, and especially of Surgeon-Major Lawrie and his late teacher, Prof. Syme.

As a Scot, we can understand and sympathize with the dogged pertinacity with which members of the Scotch School insist upon the superiority of their favorite anæsthetic, which was introduced as such by Sir Jas. Y. Simpson, and which, therefore, may properly be termed a Scottish discovery; we can also appreciate and respect the prejudices involved, and only wish the cause was a better one, or at least more scientifically championed. As it is, scientific men will be slow to accept any conclusion that controverts generally accepted ideas, when championed by a committee of partizans.

That the Commission was partizan stands self-confessed; its very title of "Chloroform" would suggest this, even were other and more positive and definite evidence wanting. Dr. Lauder Brunton, the able editor-in-chief of the Practitioner, was added to the Commission as a representative of the *Lancet*, of London, a journal not altogether free from bias; but why he was chosen instead of a professed anæsthetist, remains a mystery, unless it was surmised that his leanings were in the desired direction, or it was thought a *physician* would be easier to convert than a *surgeon*.

We gather from the report made, that the Commission demonstrated nothing positively, save that in the administration of chloroform every care and attention should be given. But the medical profession of the civilized world did not require the aid of the Nizam of Hyderabad, or Dr. Lawrie *et alii*, to establish this fact.

Again, the Commission betray an occasional suspicion that some of those pestilential doctors who always insist upon definite proofs and "*reasons why*" for everything new and novel, may raise the objection that dogs and monkeys are not, after all, human beings; but they assure us, in the most positive manner, that the effects of chloroform "are identical in lower animals and in the human subject." The "best possible proof" of this is, they say, some accidental deaths which occurred during their investigation. Perhaps so! But we also observe they on another occasion allude to experiments made by Ringer, showing that on the frog's heart chloroform has a gradually paralyzing effect, which they "omitted to repeat or confirm." Certainly, as an "evidence of good faith," Ringer's and kindred experiments should have been repeated and definitely disposed of. As it is, the truth thereof is tacitly admitted, which entirely nullifies their previous utterances as to the behavior of the anæsthetic. Further, comparative physiologists are forced to believe these gentlemen are woefully ignorant of the physiology of lower animals, or else equally derelict as regards the physiology of their own species.

In fact, the report of the Commission, taken as a whole, and at its best, as regards matters it ostensibly set out to prove, can only admit of one verdict, and that the Scotch one of "*Not Proven.*"

THE STATUS OF AMERICAN MEDICAL DEGREES ABROAD.

That degrees from the medical colleges of the United States have ever been regarded with suspicion abroad, is a matter of little surprise when we recall the fact that this country possesses no less than one hundred and thirty-six medical schools of all grades, good, bad, and indifferent, the two latter classes, of course, sadly predominating. Some few are recognized in Great Britain and Ireland, and have likewise obtained at least quasi-recognition upon the Continent. Others have been tolerated so far as admission for further study in Continental colleges is concerned, but otherwise denied standing. That this toleration might be withdrawn at any moment, has long been understood.

Recently, if we may believe cablegrams to the secular press, all forms of both toleration and recognition have been withdrawn so far as Germany and German schools are concerned, the cause not being definitely given. Doctor Hinschins, the Dean of the Berlin University, is accredited with saying: "We are determined not to recognize the American degree of M. D., and I decline to discuss the matter in any way." Privy Councillor Klueffel declares: "The American colleges differ too much in quality; one sees in the lists an excellent institution side by side with a money-making humbug, and the pressure of our affairs is such that we cannot take the time necessary to distinguish the true from the false." And Doctor Schmidt, the Curator, adds: "I cannot explain why English and Continental M. D.s are permitted to register as such while the Americans are denied, but I attribute it to the laxity of United States laws regarding the conferring of degrees."

Undoubtedly there is no small measure of justice in the strictures embodied, no matter whether the dictum claimed is true or false, since a large proportion of the medical schools of the United States, under their present organization, modes of teaching, and lack of a definite or uniform standard for the degree of M. D., are objects of suspicion even at home. It is a "far cry" to Germany, and the authorities of that country cannot be expected to discriminate fairly among such a host of medical institutions as we possess, and whose range of location embraces an era of 3,000 by 1,500 miles, approximately; further new schools are born, and others die, each year, while not a few, such as the so called "Christian Science," "Vitapathic," and "Physio-Medical," are empowered to confer degrees without even the first preliminary study of anatomy or physiology. We, of course, are more or less familiar with even the minor universities of the Continent, since annually a host of medical pilgrims flock to study and pay homage at the feet of some local medical or surgical celebrity. But no counter pilgrimage takes place from European to American shores; hence it cannot be expected of the profession of Germany, or any other foreign country, that they shall be familiar with the true standing of even a minority of our schools.

The remedy for this unfortunate and greatly-to-be-deplored condition of things, lies simply in a uniformity of the requirements for entrance upon medical study, and in the examinations for a degree; and it is with this aim presumably, that the schools of Baltimore have united in a call for a Medical College Conference, to convene at Nashville during the session of the American Medical Association.

There are, however, good reasons for surmising that the report from Germany is a *canard*, or at least greatly exaggerated, for the same cablegram that reports non-recognition of American degrees, also states that two hundred American graduates have been refused matriculation at the Berlin University. The truth is, there are nothing like so many individuals holding degrees from this side of the Atlantic in Berlin, and the University has never, in any one year, had half this number of applicants for matriculation from the United States.

Just at present, as is well known, there are exaggerated ideas abroad regarding the value and cheapness of medical degrees in the United States, due largely to the senseless revamping by the British Medical Journal of a sensational article originally published in a Boston lay paper, regarding a New England "diploma mill" whose operations were nipped in the bud almost as soon as begun; the space and prominence given to this sensational screed, is the more remarkable, since no great time has elapsed since the Journal commented severely upon the sensational character of the American lay press, condemning as utterly worthless as an almoner of facts—strictures that must be admitted as possessing more than a modicum of truth.

The facts are, there is one medical institution in the United States that in its standard of requirements for matriculation and degrees, rivals any of the Continental Universities, and as regards teaching, didactic or clinical, is vastly the superior of a majority of the latter; there are others also whose standards, though perhaps not quite so exacting as those of Germany, are sufficiently so for all practical purposes. Of the annual graduates of all the Medical Schools of the United States, one-fourth, or perhaps one-third, are men who have obtained their degree under strict and satisfactory conditions, and are deservedly entitled to recognition as members of a learned profession. They are unfortunate in that their degrees, even at home, save with a few, carry no greater weight than those bestowed by inferior institutions, and, abroad, are apt, also, to be belittled by comparison with the latter. Nevertheless, it would be unjust for foreign universities to condemn American diplomas as a whole, and it certainly would be impolitic in Germany, whose schools derive no inconsiderable income from American sources, to close their doors to Cis-Atlantic graduates as graduates,—especially so for the Berlin University, just at this juncture when efforts are being made to convene under its auspices a great International Medical Congress.

On the whole, we are inclined to regard the announcement, coming as it does from lay sources, and obtaining its first publication in the sensational press, as decidedly "fishy." Probably it had its origin in the rejection of certain would-be matriculants who held degrees from American schools of little reputation and less standing. There are always a number of such graduates infesting the Continent to the degredation of American medical education, and who undertake a foreign tour, and matriculation at some Continental university, less for the acquisition of knowledge, than for the *eclat* and *prestige* such a trip is supposed to secure among the vulgar and ignorant at home. In any event, there is a lesson inculcated even though the premises are false, and one that should spur the higher class medical schools of the United States to action that will secure their definite recognition abroad, and incite the schools of the lower classes to higher standards. It is further evidence of the necessity of uniform requirements in matriculation in all schools, as well as in the essentials that command the degree. It is certainly most galling and degrading to recall the fact, that of all the countries of the globe pretending to civilization, the United States alone is deficient in this regard; and that even semi-barbarous Turkey, effete Greece, Tartar Russia including its Finnish and Siberian dependencies, and the petty South and Central American republics, are one and all our superiors in matters of medical standards, and in the regulation of medical practice. In all, the American diploma is valuless, and denied as any evidence of professional ability. On the contrary, a Canadian degree, especially if backed by the diploma of the College of Physicians and Surgeons, is everywhere unhesitatingly accepted.

Book Notices.

A Text-Book of Diseases of the Eye. By Henry D. Noyes, A. M., M. D. Cloth. 8vo, 733 pages, illustrated with 6 Chromo-Lithographic Plates and 216 Engravings. Price $6.00; Sheep, $7.00. Published by William Wood & Co., New York.

Dr. Noyes as Professor of Ophthalmology in in Bellevue Hospital Medical College, and Executive Surgeon of the N. Y. Eye and Ear Infirmary, is so well known as both a teacher and an author that any work from his pen must command attention.

The present volume is an elaboration of a somewhat hurriedly prepared treatise on diseases of the eye, published in 1881 as one of Wood's Library Series. We observe that the arrangement of subjects in the old volume has been adhered to in the new, it being most simple and convenient, viz: Part 1, (ten chapters), devoted to the general anatomy and physiology of the eye with its functional disorders: Part 2, (twenty-two chapters), embracing inflammations and organic textural changes.

The spirit of the work is clinical; and in accordance with the demands of practicability, mathematical formulæ have been omitted. Pathological and microscopic anatomy, to avoid prolixity, have been presented only so far as was absolutely essential to provide an intelligent account of morbid processes. The share which micro-organisms may have in the production of ophthalmic diseases has also been

fully recognized. No little care and labor is evinced in the setting forth of the relations of the eye to the brain and nervous system, as both the illustrations and descriptive text ably testify. The participation of the eyes in numerous general diseases or lesions of remote organs, such as the kidneys, the uterus, the heart, etc., and the reflex influence which may be exerted upon, or received from, distant parts, are carefully and lucidly set forth.

Not satisfied with giving his own experience and detailing personal cases, Dr. Noyes has also drawn largely from the works of others, as is seen by reference notes and by an extended bibliographical index. This renders the work more valuable, as thereby it becomes a comparative instead of a strictly individualized volume. All in all, it is a most desirable and trustworthy treatise, one creditable alike to the author and the publishers.

Practical Electricity in Medicine and Surgery. By G. A. Liebig, Jr., Ph. D., and Geo. H. Rohé, M. D. Cloth; pp. 383. Price, $2 00. Published by F. A. Davis, Philadelphia.

The authors admit that the study of electricity presents many difficulties, and that to arrive at a practical knowledge of the subject, reading should be supplimented "by as much work as possible" in the laboratory.

A treatise on medical electricity, to be of any value to the medical student, should be eminently practical, and should deal with such matters only as have a direct bearing upon the requirements of the practitioner; it should therefore be free from unnecessary technicalities, and yet sufficient attention be given thereto and to theory, to afford explanation of such phenomena as are presented in the medical and surgical uses of electricity.

Unfortunately the volume is not free from these faults, and is consequently unintelligible to the average practitioner; either too little or too much has been said—rather the former, as much necessary explanatory material should have been added.

The first portion of the work is taken up with a consideration of electricity, magnetism and batteries; the second with electro-physiology, electro diagnosis, and electro-medical apparatus; and the final one hundred and twenty-pages is devoted to very sparing information, not always reliable, regarding electro therapeutics.

Essentials of Gynæcology. By Edward B. Cragin, M, D. Cloth, 12 mo., pp. 190. Price $1.00. Pub. by W. B. Saunders, Philadelphia.

This is No. 10 of "Saunders' Quiz-Compends," of the practical value of which, individually and as a series, we have had occasion to express opinion on several occasions. The author admits it is inadequate for a thorough study of Gynæcology, and "only hopes that as a means of review and as a summary of the results of more extensive reading, the student may find the work of *some* value." It is professedly compiled from the works of Hart and Barbour, Thomas, Schroeder; "The American System of Gynæcology;" notes from the lectures of Prof. Geo. Tuttle, of the College of Physicians and Surgeons, New York; and "numerous journals."

The Neuroses of the Genito-Urinary System of the Male, with Sterility and Impotence. By Dr. R. Ultzmann. Cloth, 12 mo., pp. 160. Price $1.00. Pub. by F. A. Davis, Philadelphia.

This most interesting little work is a translation, undertaken with the author's permission, by Dr. Gardner Allen, M. D., of "Ueber die Neuropathien (Neurosen) des männlichen Harn- und Geschlechts apparates," and "Ueber Potentia generandi und Potentia coeundi."

It engenders sound pathological teaching, and will aid in no small degree in throwing light on the management of many of the difficult and more refractory cases of the classes to which these essays especially refer.

Notes and News

Invitation for an International Medical and Scientific Exhibition.—In connection with the Tenth International Medical Congress to be held in Berlin, between the 4th and 10th of August, there is to be an International Medical and Scientific Exhibition. The exhibits will be of an exclusively scientific nature, as follows:

New or improved scientific instruments and apparatus for biological and strictly medical purposes, inclusive of apparatus for photography and spectral analysis as far as applicable to medicine.

New objects and preparations in pharmacological chemistry and pharmacy.

New foods.

New or improved instruments subservient to any of the departments of medicine, including electro-therapy.

New plans and models for hospitals, convalescent homes, and disinfecting and bathing institutions and apparatus.

New arrangements for nursing, including transportation, baths, etc.

New apparatus in hygiene.

Applications or inquiries inscribed "Ausstellungs-Angelegenheit," and accompanied with a printed card containing the name and address of the firm thus applying, should be directed to Dr. O. Lassar, Carlstrasse, No. 19, Berlin, N. W., Germany.

R. Virchow, President: E. Von Bergmann, E.

Leyden, W. Waldeyer, Vice-Presidents: O. Lassar, Secretary-General.

A Night Medical Service for London.—The evidence given at a recent inquest, points to the need that exists for the establishment of a night medical service in the English metropolis similar to that which has long been in operation in Paris and New York. A woman, whose death was the subject of a coroner's inquiry, was taken suddenly ill about half-past 12 on a Sunday night. Her son, on being informed of the illness of his mother, at once went in search of a medical man; but after pursuing his search from 12:30 to 4:30 A. M., during which time he called upon a number of doctors who were unable to attend, returned home to find that the deceased had died in the meantime. The evidence of Dr. Cyril Lloyd Jones, who was the medical man first called upon to attend the case, but who was unable from indisposition to leave the house, pointed to the fact that even if the woman had been attended it was improbable anything could have saved her. The evidence, however, showed, as the coroner observed, the necessity of there being some regular system with regard to night visitation. There was, he said, no legal obligation for a doctor to attend at any time, and he took the very sensible view that it is impossible for a man to do both night and day duty. Self-preservation, he said, was the first law of Nature, and there should be some remedy provided whereby the poor could have a doctor who was ready to conduct cases at night.

Four Hundred Dollars in Prizes.—According to an announcement emanating from his laboratory, Norway Lake, Maine, C. A. Stephens offers the following prizes: $175., $125. and $100. for the best three comparative demonstrations by means of microscopical slides, of the blood capillaries in young and in aged tissues, canine, or human.

This offer was made on the first day of January, 1890, and will remain open until the twentieth day of August, 1890.

Slides and manuscript will be examined and receipted for as soon as received.

The prizes will be adjudged on the first day of October, 1890.

These nominal prizes, Mr. Stephens says, are offered less in expectation of results from the money as an agent, than in the hope that the offer may furnish a *point d'appui* for really needed work. Besides professional observers and students, there are in the United States a large number of amateur microscopists of acute vision and undoubted talent, who are at present playing with microscopes, as with toys, merely to see curious or pretty things. The time has come to concentrate observation upon the one proper object of biology, viz., the renovation and prolongation of human life.

The Price of Sulphonal.—In the Pharm. Zeitung of January 11th, 1890, we notice the following reference to the article sulphonal:

A price list, published by a certain house in Halle, Germany, states that continued overproduction of sulphonal has reduced the price for the article, which was not much more than a year ago 200 marks per kilo (or about $22.50 per lb.), in such a manner that to-day, if at least one kilo is purchased at a time, chemically pure sulphonal can be obtained at 30 marks per kilo (or $3.35 per lb.), and in larger quantities these prices will even be reduced.

If a duty of 25 per cent. *ad valorem* be added to these prices, it will be readily seen by the medical profession, and by druggists, at what price the article could be imported if it were not hampered by patents on the process of manufacture, *patent on the article itself*, and trade mark on the name.

In the Druggists' Circular, we find the article quoted at from $1.25 to $1.35 per oz., or about $20 per lb., according to quantity purchased, which the druggist, the physician, and (with the necessary addition of profit also) the public will have to pay. Still we understand that it is even contemplated to introduce the patented article sulphonal into the new Pharmacopœia. *Sapienti sat.*

A New Use for the Phonograph in Medicine.—When Edison's phonograph was first presented to the public in its improved form, it was thought that it might be turned to practical use in the teaching of physical diagnosis, but this has been found impracticable, since it is not possible, without great trouble and the use of accessory apparatus, to record the faint cardiac and respiratory sounds. Dr. Litchwitz, of Bordeaux, has suggested another use for the instrument, which would seem to be entirely practical and of real value. He proposes to employ it in otological examinations as a measure of the hearing power. It possesses the advantage over the crude method of listening to the ticking of a watch, in that the element of unconscious deception can be entirely eliminated. The intensity of sound can be graduated to a nicety on different parts of the cylinder, and thus a definite scale may be made which will equal, in its exactness and universality of application, the visual tests employed, the world over, by oculists. It will be possible also to measure the degree of hearing in one ear without the confusion resulting from the sound being heard in the well ear, as may happen when the watch is employed.

Recent Saving of Life in Michigan.—In a carefully prepared paper read before the Sanitary Convention at Vicksburg, the proceedings of which are just published, Dr. Baker gave official statistics and evidence in which he summarized as follows:

"The record of the great saving of human life and health in Michigan in recent years, is one to which, it seems to me, the State and local Boards of Health in Michigan can justly 'point with pride.' It is a record of the saving of over one hundred lives a year from smallpox, four hundred lives per year saved from death by scarlet fever, and nearly six hundred lives per year saved from death by diphtheria —an aggregate of eleven hundred lives per year, or three lives per day, saved from these three diseases! This is a record which we ask to have examined, and which we are willing to have compared with that of the man who made 'two blades of grass to grow where but one grew before.'"

A Trip to Europe for the Tenth International Medical Congress.—Dr. Robert Newman has published a useful schedule of information regarding the trip to Europe for the purpose of attending the Tenth International Medical Congress. A trip from New York to Rotterdam, and return, can be made for $110, first cabin, by the Royal Netherlands and United States Mail Line. The railroad fare, second class, to Berlin, is $10.50. The days of sailing are Thursdays or Saturdays, in June and July.

An Impostor to Look Out For.—Emil Stoessel, Doctor of Philosophy, is hereby requested to give me account at once of the five hundred dollars ($500.) which he received from me last summer to pay for advertisements in several medical journals, otherwise I shall proceed against him according to law.—Julius Fehr, Hoboken, N. Y., Jan. 29th, 1880.

Iowa State Medical Society.—The Thirty-ninth Annual Session of the Iowa State Medical Society will be held at Des Moines, April 16, 17, and 18th. Secretary, Dr. C. F. Darnall, West Union.

Therapeutic Brevities.

Mercurial Flannel.—A new treatment, introduced by Dr. Merget and adopted by a number of physicians, consists in causing the patients to wear on the skin flannel impregnated with finely divided metallic mercury. To enable pharmacists to readily prepare the flannel in question, Prof. P. Carles has published the following process: First select soft and thick flannel, and soak it for two or three hours in an alkaline bath consisting of 1 pound of carbonate of soda dissolved in 4 pints of water. The flannel, after one rinsing of cold water and a simple wringing, is now ready for the mercurous solution, which is made as follows: In a large porcelain dish place several pounds of quicksilver—enough to be sure of an excess—and add several pints of cold nitric acid diluted with water. No heat is to be applied to ensure the formation of mercurous nitrate. When the reaction has ceased—the dish having been set aside in open air or under a hood for twenty-four hours—should no crystals of nitrate appear, some concentrated nitric acid must be added and the operation continued. When crystals begin to form, it is a sign the solution is sufficiently concentrated, and the flannel, still moist and slightly alkaline, should then be dipped into it. After four or five hours' maceration, the fabric is withdrawn, allowed to drain off, and soaked for a few minutes in a third bath made with 1 part of ammonia and 2 of water. As soon as the tissue has turned a grayish-black color, it needs only drying in open air and protection from direct sunshine to be ready for use. The flannel thus prepared is employed as an improved substitute for mercurial ointment in local affections and for inhalations in general treatment. But as the patient must be exposed to mercurial vapors only, and not to any flying metallic dust, the flannel should be incased within thin muslin or silk of a very close texture.—*London Med. Recorder.*

The Therapeutic Effect of Sulphide of Arsenic in Diseases of the Skin.—Dr. McLaughlin, as an experiment, tried the drug in the crude form known as Realgar (As^2S^2); it was given in granules of $\frac{1}{100}$ grain. In one patient, who had suffered from psoriasis, more or less for twenty years, it proved of great service. This patient had been unable to take the usual preparations of arsenic, as they produced great irritation in a very short time. When he commenced to take the drug, he suffered from an eruption over the arms, back, head and forehead; his hands were covered with fissures which would bleed whenever the fingers were extended; the nails were black and roughened. After taking the granules for one month (first one three times a day and increased gradually to eight granules three times a day), the hands had greatly improved, the fissures were entirely healed, and the face was practically well. The drug was then stopped for one week, during which time the eruption began to extend very rapidly. The granules were again given, and in a few days the improvement was marked. The general health soon improved, and the patient now feels that he has obtained a remedy which, if not a cure, will exert, at any rate, a controlling influence on his disease. In another patient who had suffered from psoriasis for six years, but would not take arsenic on account of the gastric irritation it produced, the granules produced a marvellous improvement in a few weeks, and he was able to take eight granules three times a day without any gastric trouble whatever. In cases of acne and furuncles, the author has found the disulphide of arsenic more satisfactory than sulphide of calcium: in eczema he has also obtained satisfactory results, and in every case in which it has been used, the patient is entirely unaware that arsenic is being administered.

Dieulafoy on the Treatment of Asthma.—At the beginning of the attack, paint the inside of the nostrils, as high up as possible, with a camel's-hair brush dipped in a solution, of 1 in 20 of hydrochlorate of cocaine in water. If preferred, the solution may be sprayed into

the nose and throat for four or five minutes at a time. If this application does not cause the attack to abort, the patient should be made to inhale from 1 to 12 drops of pyrolin, sprinkled on a handkerchief. When the attack is at its acme, inject hypodermically one-tenth grain of hydrochlorate of cocaine, to be repeated in a quarter of an hour if necessary. The remedy, *par excellence*, for asthma, is iodide of potassium, given in doses of 20 to 30 grains daily, but commencing with 5 grains only, gradually increasing. To combat the diathesis, we have three principal medicaments: Iodide of potassium, belladonna, and arsenic. The author recommends the following course of treatment: The patient is to take from 15 to 30 grains of iodide daily for fifteen days, then replace the iodide by pills containing powdered belladonna leaves and extract of belladonna, of each one-fifth grain to each pill. At the same time he is to take a teaspoonful daily of the following solution, after the principal meal: Arseniate of soda, 1 grain; distilled water, 2½ fluidounces. If the patient be emphysematous, the use of baths of compressed air are also useful concurrently with the foregoing treatment.

Lassar's Treatment for Baldness.—First Stage: A strong tar soap is applied to the scalp for at least ten minutes. Second Stage: Removal of soap by a tepid water douche, the water to be gradually cooled, the scalp to be well dried afterward. Third Stage: The scalp to be shampooed with the following solution:

℞ Hydrarg. bichlorid., gr. x.
Glycerin,
Spirit. rect., ää ʒ ij.
Aq. destil., ʒ v.

F. fiat solutio. S.: For external use.

Fourth Stage: Shampooing of head with absolute alcohol, to which ½ per cent. of naphthol has been added. Fifth Stage: The following solution to be well rubbed into the skin:

℞ Acid salicyl., gr. xxx.
Tinct. benzoin, ʒ j.
Ol. ped. taur, ad ℥ iij.

Medical Progress.

AN APPARATUS WHICH WILL ENABLE DEAF PERSONS TO HEAR PUBLIC SPEAKERS.—I was asked to devise an apparatus which would enable a lady, who is extremely deaf, to hear the sermon and other services at her church.

The lady in question is a patient of Dr. C J. Blake, and, through his kindness, I learn that she has a thickened membrane and anchylosis of the bones of the middle ear. Her experience is that of many deaf persons; while she has, until lately, heard conversation addressed to her by a single person sitting in front of her fairly well, she has, for a long time, been unable to appreciate general conversation in company, or to hear the voice of a speaker in a public assembly.

The apparatus devised is so simple, and has given so much comfort to her, and to other persons similarly deaf, that I give its description with the hope of aiding others:

It consists of a trumpet-shaped tin sound-receiver, having an opening superiorly of six inches, and narrowing inferiorly to a diameter of one inch. Its upper end is curved, so that the opening of the trumpet is directed toward the mouth of the speaker. The sound-receiver stands on the desk or pulpit, and is partially concealed by a gas-fixture At its lower end it fits into the opening of a common tin speaking-tube, which passes down, through, and under the floor to the seat of the lady in the audience, at which point the tube ends in a piece of brass pipe, rising some four inches above the seat, over which the person using it places the bell-shaped end of the flexible conversation tube now very commonly employed by the deaf.

Following my description to her of the proposed apparatus, the patient mentioned the matter to Dr. Blake, and he drew for her a device, almost identical in general design, which he had contrived some years ago for a suburban church. The priority of invention, therefore, belongs to Dr. Blake.

In his apparatus the tube ends with pieces of gas pipe and gas tips, over each of which a flexible rubber tube may be slipped or an ear-piece adjusted, toward which the ear of the listener may be turned.

The clergyman of the parish, in which that apparatus is now used, has written me that six persons are accommodated by this device, all of whom express the greatest satisfaction. One person who had not heard a sermon for twenty years, now thoroughly enjoys the service. The lady, for whom the present instrument was made, has now used it for several weeks; her experience is that, whereas before she never heard anything of the service, she now seldom loses a word. The entire expense was not far from ten dollars.—*Boston Med. and Surg. Journal*, Feb. 27th, 1890.

THE DANGERS OF SULPHONAL.—Marandon de Montyel has had evil experience with sulphonal, though he, to be sure, administered it in rather large doses. He often had occasion to observe symptoms of poisoning—sensations of cold and shivering, nausea, vomiting, dysentery, paralytic weakness, dizziness, etc. He reports a series of instances.

Man aged 70. Senile excitability; insomnia. Four grammes of sulphonal without result. Five grammes also failed to produce sleep, causing only a condition similar to drunkenness, reeling, clumsiness, impediment in speech. Recovery after a few days.

Man aged 20. Melancholy and apprehension; insomnia. Two grammes of sulphonal without result; after four grammes, sleep for six hours; then reeling, vomiting, speechlessness.

Inebriate aged 37. Two grammes of sulphonal without result; after four grammes, sound sleep; then pronounced poisoning.

In the case of a strong paralytic, two grammes were without result, as were also four grammes during two nights. Sleep then ensued, followed by a stupor which lasted three days.

Two grammes were almost always without result. Four grammes were given in several cases, and poisoning then followed. This was experienced with thirteen patients suffering from mental aberration and insomnia. Only in the instance of one maniac who took four

grammes for five days, did sleep and quiet result without collateral effects.

M. Montyel then tested the virtue of three grammes, but without success—at times poisoning.

He was not disposed, however, to give up his tests, but sought rather to utilize the cumulative effect of the remedy, administering two grammes until seven hours sleep resulted. He then interrupted the medication, and returned to the sulphonal only when the period of sleep sank below five hours. He proceeded thus with 25 patients suffering from mental affection. The result was favorable only in 12; in the other 13, poisoning ensued eleven times, which was all the more disturbing as it was altogether unexpected.

Prof. Mairet, has had a very similar experience. He therefore first resorted to a single dose of four grammes; the next he gave only one gramme, and repeated the four grammes only when sleeplessness returned. This method M. Mairet employed with 27 patients who were mentally affected, but also failed to find this satisfactory. The large initial dose caused disturbances, and with one gramme insomnia quickly returned. The effects were in a degree satisfactory only in 13 cases; in 11 cases serious poisoning resulted.—Moebius, in *Schmidt's Jahrbücher.*

Campho-Phenique in Erysipelas.—Dr. F. H. Milliken, of Philadelphia, Pa., in the Therapeutic Gazette for December, describes a case of traumatic erysipelas in a child, 18 months old, which resisted the ordinary treatment but yielded to campho-phenique. The disease was quite extensive, involving one lower extremity and encroaching upon the abdomen.

Campho-phenique is formed by rubbing up equal parts of camphor and carbolic acid. It is insoluble in water or glycerin, does not stain or discolor, and is possessed of an agreeable odor. In the case in question it was used topically, diluted with olive oil.

℞ Campho-phenique, ʒ vi.
Ol. oliv., ʒ iii.
M. Sig.—For external use.

This was applied with a camel's-hair pencil every three hours.

At the end of the first day the bright scarlet flush had paled; at the end of the second there was but a trace of the inflammation, and even this had disappeared before the end of the third day had come to a close.

When the good effects of the first day's application of the campho-phenique (which was made over the abdomen alone) became apparent, the thigh and leg were also covered with the remedy.

The limb was carefully washed and dried, and campho phenique, 3 parts; olive oil, 1 part, was applied to the thigh, and campho-phenique pure to the leg and foot. The skin below the knee had by this time lost its redness, and had a mottled blue appearance. It had been bathed with soap liniment in the mean time, with a view to a restoration of healthy functions. During the progress of the disease upward, an abscess had formed in the cellular tissue immediately below the head of the tibia. This was opened, and had been washed out with a bichloride solution (1 to 4000), and dressed with antiseptic gauze and cotton. The same course was pursued with other abscesses (about a dozen in number) that had formed in the course of the disease. The progress in all of them had been very unsatisfactory, and, consequently, when we decided to use campho-phenique on the surface, we concluded to try it in the abscesses as well. They were accordingly washed out, and injected with campho-phenique and olive oil (1 part of the former to 5 parts of the latter), and dressed with absorbent cotton, saturated with the same mixture and wrung out.

There was no further trouble, and the little patient made a rapid recovery. With the check of the onward march and disappearance of the eruption, there was a sudden and complete subsidence of alarming symptoms.—*Therapeutic Analyst.*

Guarana in Chronic Diarrhœa.—In looking over some old papers recently, I found the following letter from Dr. J. Frazer Boughter, late of the United States Army, in reply to one of mine asking for the result of his experience in the use of guarana powder. The very decided effect that he found it produced in a case of long-standing diarrhœa, leads to the inference that it is worthy of a more extended trial in that disease by the medical profession.

Dear Sir:—Your note of 6th inst., with the box of guarana powders, received a few days ago, for which I am obliged. I will be happy to send you the results of any further trials I may have the opportunity of making with it in cases of chronic diarrhœa, etc. The case in question is that of a soldier of Co. F, 15th U. S. Inf., who for two years has been troubled with chronic diarrhœa, better at times, at others worse; a great portion of his time in hospital. Has been in hospital now for over two months, becoming much worse, with 8 to 12 movements in 24 hours—all of them very offensive, containing mucous, blood, pus, etc., indeed presenting a dysenteric character. Nearly all the vegetable and mineral astringents were tried with only partial and temporary relief. The man rapidly lost flesh, became discouraged (so did I), when I happened to think of the guarana which I had sent for—not for this case, but to use in a case of sick headache. I gave the man one powder twice daily for several days, and—having only about 7 or 8—afterwards one daily.

From the time of taking the first, he began at once to improve; the number of passages from the bowels diminished rapidly; and by the time the 7 or 8 powders were all taken, he had but one passage in 36 hours or longer. To-day he is perfectly well and getting stout—eats fresh vegetables well cooked, and has about one passage in 36 hours. I must attribute his sudden change for the better to the guarana, as I stopped all his medicine while taking it; since, I have had him on dilute hydrochloric acid. The patient informs me that he has now the first natural movements of the bowels he has had for several years—nearly all of them heretofore being diarrhœic in character.

I wrote the Post Surgeon of McRae, the next post to us, and suggested a trial of the guarana, as they have many cases of diarrhœa there during the summer.—J. T. Shinn, in *Amer. Jour. of Pharmacy,* Feb., 1890.

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Original Articles.

ON INSOMNIA AND HYPNOTICS.

BY PROF. GERMAIN SEE.†

I. SIMPLE MEANS FOR COUNTERACTING INSOMNIA.

There are certain common means and conditions with which people instinctively comply in order to obtain sleep. A position is taken which puts all the muscles in relaxation. Decubitus on the right side is ordinarily chosen, but many persons sleep equally well on the left side or on the back. Respiration must be free. Children with enlarged tonsils sleep on the side. All sensorial excitation from without is avoided. The eyelids become heavy, and then close; the contracted pupils are turned somewhat inwards by the predominant action of certain muscles; if light enters the eye, it provokes movements by reflex excitation, hence the recognized necessity of darkness for all excepting children and timid persons.

The temperature should be a medium; intense heat opposes sleep, while that due to excessive cold is dangerous. Moderate cold is preferable in general to heat, and the thermometer of the sleeping room should register 60° to 68° F. There are individuals who cannot sleep with a night-cap on, and others like to have their lower extremities rather cold. In Germany, physicians are much in the habit of prescribing cold compresses to the abdomen in cases of insomnia from digestive troubles; warm baths are more in use, but are not always available.

Hearing, of all the special senses, is that which sleeps the last and the least. Near sounds are still perceived at the moment one falls asleep; and in some subjects of mental alienation, hallucinations of hearing alone persist. It is by the sense of hearing that we generally pass from sleep to the waking state. On the other hand, certain monotonous sounds like the murmur of a brook, or the hum of bees, the noise of a mill, or the low tone of a person reading a dull book, are conducive to sleep. It is, in fact, a psychical law that the sensoral functions are kept awake by the alternation of impressions, whether from without or from within. Monotony tends to produce sleep; it is also in this way that certain regular movements, such as rocking the cradle in case of fretful babies, and gentle manipulations and frictions, lull to sleep.

There are other means quite as simple which sometimes favor the same result. Sips of hot water sweetened and flavored with a little red lavender, tincture of orange peel or some other aromatic, a little broth, a glass of hot punch, oftentimes accomplish the same end. Fixing the sight and attention on one object, in accordance with the famous experiments of Kircher, Braid, and Leys, sometimes succeeds in producing sleep. It has been remarked in such cases that the respiratory movements by reflex stimulation become deeper and give rise to yawning. Sleep is induced in this way by those who practice hypnotic suggestion. Hypnotism certainly works marvels among those who are impressible; but there are, however, great evils likely to arise from the continued exercise of hypnotism in susceptible individuals, and the Minister of War of France has forbidden military surgeons to resort to such practices lest hysteria become prevalent in the army. The same proscription ought, with at least equal force, to apply to the practice of hypnotizing children, who can be made fools, or mad, by constant repetition of such practices. As for those who are hysterically-predisposed, Gilles de la Tourette declares that hypnotism does not fail to bring out and develop the stigmata and various other manifestations of hysteria; and as for those already hysterical, if by chance one now and then succeeds in curing a paralysis or a contracture, it is only to make the disease locate itself elsewhere, or substitute for the contracture or paralysis, a series of fits. One thus casts out Satan by Beelzebub.

II. OLD NARCOTICS AND NEW HYPNOTICS.

The popularity obtained by the numerous somniferous medicines which the last few years have brought before the profession, serves to illustrate the poverty, the inconveniences, and the imperfections of the old narcotics. Without speaking of anæsthetics, as chloroform and ether, without dwelling on the sedatives of the medulla oblongata, as analgesin and other so-called analgesics, it may be well to say a word in disparagement of morphine and chloral—of morphine, by reason of its damaging effects on the brain, especially when its use is long con-

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tinued; of chloral, on account of its depressing action on the vaso-motor system which it paralyzes, and on the respiration, of which it alters the rhythm; recently chloral has reappeared under the form of *chloralamid*. Physicians have essayed to substitute codeine, hyoscine, and narceine, for morphine, but these attempts have certainly not been successful.

This is the way that I would class medicines which have more or less somniferous properties:

First Group.—*Depressants of the direct or reflex irritability of the divers nervous centers.*

a.—*Bulbar. Pure analgesics.* Type, analgesin; no action on the encephalon or on the heart;

b.—*Encephalic. Analgesic and narcotic.* Type, morphine:

c. *Vaso-motor analgesics.* Type, chloral.

Second Group.—*Recent and new hypnotics.* They have no action on pain as analgesin and morphine have; they provoke sleep directly.

In order of date we have:

I. *Hypnotics of the fatty series:*—1. *Paraldehyd*, discovered by Cervello: 2. *Urethan*, discovered by Schmiedeberg: 3. *Hypnon*, studied by Friedel: 4. *Hydrate of amylen*, indicated by Möering.

II. *New hypnotics containing sulphur or chloral:*—1. *Sulphon* and *sulphonal*, for which we are indebted to Baumann and Kast: 2. *Chloral-formanidate* or *chloralamid*, discovered by Möering, and presenting real advantages over chloral by not being a cardiac depressant: 3. A simple mention is due to *somnal*, whose uncertain composition and doubtful action do not merit any serious consideration.

Third Group.—*Old and new sedatives:*

1. *Bromides.*—The bromides, and especially bromide of potassium, possess in the highest degree a depressive action on the excitability of the cerebro-spinal axis, and produce on the centre of perception and motility a marked sedation. They are, however, feebly anodyne, and have little narcotic effect. Bromide of potassium is a sedative or calmative, and, moreover, a debilitant of the heart's action. It begins, in fact, by provoking an excitation of the vaso-motor centre (having an action the reverse of chloral, which paralyzes); by reason of this excitation of the vaso-motor nerves, and of the contractions of the vessels which result therefrom and interpose an obstacle to the action of the heart, this organ becomes exhausted, which is a grave disadvantage,

2. *Cannabis Indica.*—Indian hemp is a remarkable calmative; its doses and preparations are not yet definitely settled. It is not a somnifer like sulphonal, nor an anodyne like morphine and analgesin, nor a paralyzer of the vaso-motor nerves and the heart like chloral, nor an excitor of these nerves like potassium bromide. Its mode of action seems to manifest itself:

a. On the respiration, whose rhythm it favors:

b. On the stomach, relieving gastralgia and painful conditions generally:

c. On the heart, whose sensibility it lessens, sustaining rather than depressing its contractile energy:

d. Its action on the encephalon is disturbing; at the onset, it frequently produces very pronounced but temporary vertiginous attacks.

III. INSOMNIA; ITS CAUSES AND TREATMENT.

1. *Insomnia from Pain.*—The first question which the physician should ask himself when searching for the causes of insomnia in a particular case is, whether there is pain anywhere, peripheral or visceral ? If it be a whitlow, a carious tooth, or an essential neuralgia, even an intense pruritus, the insomnia is easily accounted for. It is, however, to be noted that migraine, unlike neuralgic affections generally, often prompts to sleep; in fact, ordinarily ends in sleep. In all these cases of pain, the ordinary hypnotics do no good; morphine is needed, or, what is often better than morphine, either analgesin, acetanilid, or phenacetin; even bromides sometimes succeed in these cases by diminishing the direct or reflex excitability of the bulb.

We may make the same remark in reference to muscular and other rheumatisms which readily yield to salicylate of soda and the so-called analgesics. The same agents also are frequently efficacious in the atrocious pains of tabes dorsalis (*douleurs fulgurantes*). These peripheral neurites, which often mark the onset of tabes dorsalis and not infrequently predominate in diabetes, may be relieved almost as by magic by large doses of analgesin—fifteen to twenty grains three times a day.

If the pain be visceral (cramps in the stomach, intestinal colic, hepatic or renal colic), it is always easy to recognize its true character, but more difficult oftentimes to designate its source; this pain is not benefited by the ordinary somnifers, but demands for its relief opium or belladonna.

Children are especially liable to sleeplessness and restlessness from such sources as indigestion, wind-colic, etc., and the insomnia only yields to the successful treatment of these gastric and intestinal troubles.

2. *Digestive Insomnia.*—If the victim of insomnia does not complain of any pain in the internal or peripheral organs, it is still possible that he may have digestive troubles which do not reveal their presence by pain, but simply by a vague sense of discomfort sufficient to keep the brain disturbed; these digestive

troubles generally manifest themselves about the time of the second digestion, *i. e.*, five, six, or seven hours after a meal. Just as in the day time, patients experience three or four times after the noon meal this vague discomfort with flatulence, distention of the stomach, and a sense of false hunger, so also in the night, feelings of oppression rather than pain come on about eleven o'clock or midnight, to last till four o'clock in the morning, when the patient is finally worn out with fatigue and insomnia. I have often seen such patients relieved and enabled to sleep after taking a drachm of bicarbonate of soda in a cup of cold or hot water at bedtime. It is plain that narcotics and hypnotics are of little or no utility in this kind of latent dyspepsia, which is not easy of diagnosis on account of absence of troubled, difficult or slow digestion. I attribute this sort of cerebral agitation to excess of acidity in the *primæ viæ* (hyperchlorhydria); this kind of insomnia is met with in the hyperchlorhydric dyspepsias, and still more in intestinal affections, notably in mucous enteritis. Constipation is sufficient of itself to keep up this nocturnal agitation, and the more so that it contributes to the retention of gases which impede respiration, and in man provokes erections and genital excitement by pressure on the vesiculæ seminales. In these cases all that is sometimes needed is a movement of the bowels without recourse to any calmative.

To these reflex excitant conditions, I must add the temporary or permanent disorders resulting from deficient or faulty alimentation, and under this head we must include the ingestion of too much or too little food; a stomach too full or too empty prevents sleep.

3. *Dyspnœic, Cardiac, and Vascular Insomnias.*—Where the respiration is impeded, as in attacks of asthma, the cause of the insomnia is only too evident; relieve or cure the dyspnœa, and the insomnia will vanish.

I should mention here the insomnia and nocturnal restlessness caused by breathing air which is vitiated, insufficient, or toxic. In this era of air-tight stoves, coal-oil and gas stoves, people lack the ventilation that was provided by the old-fashioned fireplace.

Dyspnœa also plays a great part in cardiac affections. Generally the patient is attacked with nocturnal paroxysms of difficult respiration which will not allow him to lie down; in such cases we prescribe iodide of potassium, or inhalations of ethyl or of pyridin; hypnotics do no good. But if the iodides fail, one may, in grave cases, resort to morphine injections, which are attended with serious evils if frequently repeated. The older hypnotics, in such cases, are hardly to be thought of. Chloral and bromides attack the vaso-motor system, and only some of the recent hypnotics can be used with safety, such as hydrate of amylen, chloralamid, and especially sulphonal, which seem to have little effect on the circulation and blood pressure.

Besides attacks of cardiac asthma, the affections of the heart, and especially those of the mitral valve, may cause more or less permanent dyspnœa. It is in these cases that formerly the narcotics were prescribed, such as morphine in injection, and chloral in large doses (half a drachm to a drachm), notwithing the dangers of such treatment; it is in these cases that the new hypnotics, such as urethan and sulphonal, have been tried. It is certain that the action of the latter on the heart and vessels is inoffensive, while they are likely to be inefficacious, being unable to overcome the disturbing action of the malady itself, and the dyspnæa. Whether the disease be a cardiac degeneration, a mitral lesion, or an aortic insufficiency which has attained the period of broken compensation, you may prescribe these somnifers, but you must not expect too much of them; while in certain grave and at same time painful affections of the heart, like angina pectoris, their effect is worse than useless, being moreover dangerous in the paralytic neuroses of the vagus nerve attended with palpitations, and especially in Basedow's disease.

4. *Cerebro-Spinal Insomnia.* — Disturbed sleep is rarely wanting in inflammatory affections of the brain and cord, or in the functional troubles of the cerebrum. Insomnia is a peculiarity of encephalitis and peri-cephalitis, and of general paralysis at some period of its course. The same may be said, and even more emphatically, of the psychical neuroses, mania and melancholia, where the constant restlessness night and day necessitates the employment of narcotics and hypnotics. The former have oftener disappointed than given the results expected; codeine has succeeded morphine; hyoscine has had a modicum of popularity, but has not realized expectations; bromide has been abused, and is too debilitating; hypnotism is uncertain; warm baths are difficult of administration. Better success has attended three medicines but recently brought into vogue, viz: Sulphonal, hydrate of amylen, and chloralamid; these can generally be alternated to advantage in these agitated and persistent insomnias.

Insomnia is also frequent in the neurasthenic, in the hysterical and hypochondriacal. In simple disturbances of the cerebral circulation we observe restless agitation as in the neuroses, and the cerebral lesions, properly so-called. It is strange to see the anæmic, who also suffer from cerebral anæmia, complain of insomnia, since sleep has been regarded as the result of anæmia of the brain. But in the anæmic, there is not only an exsanguined state of the encephalon, but also a vice of nutrition resulting

from the permanent insufficiency of arterial blood. These vices or faults of nutrition are the true cause of the cerebral agitation. There is still another cause: Most of the local oligohæmias of the cerebrum are due to embolisms or other arterial obliterations; here the failure of nutrition goes on rapidly to *ramolescence*, which often begins by excitation. Another cause of cerebral oligohæmia is the excitation, direct or reflex, of the vaso-motors, and this takes its origin in a multitude of nervous and even gastric states. A fourth cause is hypothetical: It is the vitiated state of the blood in anæmia and chlorosis; this can play only a secondary and indirect part. However this may be, the cerebral oligohæmia cannot be compared with the physiological contractions of the arteries which take place at the moment of sleep. Bear in mind that narcotics and hypnotics, if given in these cases, must be watched.

5. *Psychical Insomnia.*—Whenever the cerebrum is under excitement, and its cortical portion disturbed in function or nutrition, insomnia is the rule. One of the causes of such disturbance is emotion. In order that sleep may ensue, the mind must be tranquil, while a powerful emotion may, for weeks or months, destroy that equilibrium of the cerebrum so necessary for its regular performance of function. During the day the excitations of the outer world, and attention to business, may distract the mind from the cause of the emotion which makes itself predominant during the silence of the night and cannot be dismissed from consciousness; the imagination is excited and forms monstrous associations of ideas which so trouble the patient that he finally comes to dread the night and sleep. Suspense is a large factor in insomnia, and so is the expectation or dread of some coming event—a journey, an examination, a speech, etc. Worry about business, disappointments, intense care, sorrow, etc., are all moral causes. Here the so-called new hypnotics (sulphonal, paraldehyd, chloral, etc.) succeed the best, unless these psychical states shall have developed digestive troubles capable of producing or augmenting the insomnia.

Insomnia is often provoked or kept up by an excitation of the senses, sight and hearing. The continued application of the eyes to reading, or the abuse of the microscope, may produce during the night subjective excitations, phosphenes, whose incessant reappearance prevents sleep. Impressions of hearing, when they are sudden, as a noise or a cry, or unexpected and prolonged, as a certain kind of music, are more efficacious in disturbing or preventing sleep.

6. *Insomnia from Mental or Physical Overwork.*—Another fruitful cause of insomnia is that arising from overwork of body or mind. The man of business cannot or will not throw off his cares when night comes, and during the hours of sleep he is still revolving in his tired brain the topics of the day. So with the student who has his examinations in view, and who has to make up for lost time. Overwork of the body (from too prolonged, too violent exercise) has the same effect; the individual "feels too tired to sleep." At the same time, exercise carried just far enough to fatigue, is the greatest promoter of sleep.

It is in these cases of over-fatigue that we note the accumulation of the products of denutrition in the urine, urea and urates, as well as certain ptomaines to which physiologists are inclined to attribute the development of insomnia. Fatigue of the muscles increases the production of lactic and carbonic acids; now the injection of these substances produces the sensation of muscular exhaustion without causing sleep. As for the nervous system, cholesterin and the earthy phosphates have have been considered as denutrition products due to fatigue, while the albuminoid matters of the nervous system appear to escape; the wear and tear do not manifest themselves by an excess of urea as in the case of overworked muscles.

7. *Genito-Urinary Insomnias.*—Genital excitement, spontaneous or provoked, in young people rarely results in insomnia. Masturbators generally sleep well, even though they become physically and mentally enfeebled and shattered.

In the adult, excitations of the genital organs, and the insomnia therefrom resulting, are often due to vesico-prostatic lesions, or to the retention of fæcal matters; these patients need the treatment of these conditions, and not hypnotics.

When at divers periods of life there exist voluntary or involuntary pollutions, these losses constitute an exhaustion both nervous and secretory, which often brings on emaciation and nervous prostration. To arrest these losses, it is better to resort to iodides than to bromides, to cold douches than to warm baths, to analgesin and hypnotics than to narcotics; all mechanical causes of the pseudo-excitation of the genitals should be removed, and regular evacuations promoted by lavements or laxatives.

8. *Febrile, Infectious and Auto-toxic Insomnias.*—Febrile insomnia is a known and constant fact. The indication is to combat the febrile state by antipyretics and by quinine; this treatment is, however, only palliative, and in grave fevers like typhoid and pneumonia, may be attended with serious evils. There is a specific element which we have not yet mastered.

These specific infectious diseases may cause agitation and restlessness during the period of incubation before there is any trace of fever. I have often noted in children, before the invasion of measles, a real insomnia, or sleep with frightful dreams.

This same fact is observed in certain other infectious diseases, and notably in syphilis. All our syphilographers have noted these premonitory or precocious insomnias, and the physician should be on the alert for such, and rigorously examine the cerebro-spinal system and eyes of the patient. In certain auto-toxic diseases, as gout, diabetes, and anæmia, there is often obstinate insomnia.

In the case of the gouty who do not sleep, there is reason to suspect invasion of the cardo-vascular organs, and gastric troubles.

In diabetes, sleep is often troubled by vesical tenesmus, thirst, hunger, and especially by the peripheral neurites which manifest themselves in the lower extremities day and night, and yield only to analgesin. In nephritis, the first threatenings of uræmia are frequently manifested by insomnia, which, when present, should lead to a careful examination of the urine.

9. *Toxic Insomnia.*—Among the toxic substances which often cause insomnia, may be mentioned opium (in some form), alcoholic stimulants in small quantities (in persons not used to them), tea, coffee, and tobacco. In tea and coffee there is much caffeine, which is decidedly anti-hypnotic. It is, however, a singular fact, that from idiosyncrasy and habit, some persons pretend to sleep better after drinking a cup of strong coffee.

Tobacco also produces opposite results. Used moderately, the pipe or cigar may favor digestion and promote sleep. A long smoke in the evening generally prevents sleep, although certain smokers can sleep only when they have a pipe or cigar in the mouth. In laying down therapeutic rules, these idiosyncrasies must always be kept in mind.

THE SELECTION AND RELATIVE VALUES OF THE ANÆSTHETICS.

PART II.

BY G. ARCHIE STOCKWELL, M. D., F. Z. S.*

In the hurry incident to the preparation of Part I of this paper, certain propositions intended to have been embodied were inadvertently forgotten. These are:

1. That lower animals, dogs and monkeys in particular—as known to every practical comparative physiologist—possess a very marked peculiarity as regards chloroform, being especially prone to succumb from respiratory failure that may, or may not, in the domesticated forms, occur coincidently with cardiac arrest.

2. Heart failure in *feral* mammalia is almost, if not altogether *unknown!*

3. Clinical observation on some thousands of civilized human beings, proves that chloroform depresses the heart, and in many instances proves fatal, the heart ceasing before respiration!

4. The evidence presented by the Hyderabad Chloroform Commission, as regards the human race, is wholly negative!

5. The clinical evidence showing that the human heart fails under chloroform is positive!

These contentions are supported by the weight of the ablest and best known anæsthetists in America, Great Britain, and Europe, and they cannot but tend to disbelief that the Commission has done more than confirm the existing views regarding the dangers of chloroform, without in the least disproving—so far as the human animal is concerned—that heart failure does not ensue as the result of the administration of this anæsthetic, and that it *cannot in every case be avoided even by the utmost care and forethought.*

It must not be imagined, however, that the writer would exclude chloroform from the list of anæsthetics. Far from it, as it not only has a place, but a most valuable and in many instances exclusive one, since there are many occasions where no other drug can be used to such advantage. Indeed, a study of all the anæsthetics will prove that none are to be wholly condemned or ignored; that while each possesses individual dangers and drawbacks forbidding indiscriminate use, each also possesses individual advantages that can be in no way compensated for.

The facts are, that too much care cannot be exercised in the selection of an anæsthetic, not alone as regards the drug itself, but also as regards its strength and purity; much of the opprobium that has attached to chloroform, it must be acknowledged, is due to an inferior product, while the uniform success and freedom from accident that attended the anæsthetizations of such distinguished surgeons as Jas. Y. Simpson, Syme, Chiane, and others of the Scottish school, is attributable to the uniform purity of the fluid employed. Again, there are many points both theoretical and practical to be considered, such as the nature and class of operation to be performed; the dangers likely to supervene as the result of surgical or anæsthetic interference; the physiological action of the anæsthetic selected; the idiosyncrasies, habits of life, and physical and psychical condition of the patient; and last but by no means least, the safety of the latter,

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wherein the questions of agreeability and convenience are of minor importance.

As intimated in the preceding paper, a climate possessed of uniform high temperature inhibits in no inconsiderable degree the employment of ether as an anæsthetic; and this is in some measure true also of ethyl bromide, and methylen chloride. Neither of the two latter, however, have found much favor, their physiological action not being fully understood, though for brief operations ethyl bromide presents many advantages, including rapid anæsthesia, and economy of material. I have repeatedly employed this anæsthetic for minor surgical operations, and thus far with uniform satisfactory results to self and patient.

Sir Spencer Wells has repeatedly sung the praises of methylen, and in his address on Surgery, at Manchester in 1877, said:

Given perfectly diluted with air, the vapor of chloromethyl has, in my experience of more than ten years, with more than 1,000 operations of a nature unusually severe as tests of an anæsthetic, proved without a single exception applicable to every patient, perfectly certain to procure complete anæsthesia, relieving the surgeon of all alarm or even anxiety; and its use has never been followed by any dangerous symptoms which could be fairly attributed to it. * * * * * *

I wish I could speak as confidently of the chemical composition of the fluid sold as bichloride of methylen as I can of its anæsthetic properties. But whatever may be its chemical composition, whether it is or is not chloroform mixed with some spirit or ether, or whether it is really bichloride of methylen, I am still content with the effects of the liquid sold under that name when properly administered.

And again he adds:*

And more than another ten years has confirmed me in the opinions expressed [referring to the above.—S.]. Professor Tyndall told me that no chemist could make pure bichloride of methylen under ten shillings an ounce, and that when made it would not keep a week. Others said a mixture of chloroform and methylic alcohol would act as well, but on trial it did not; neither did the A-C-E mixture, or Reidel's methylen. Last week Dr. Day gave the latter for me in a case of amputation of the breast. The tube of Junker's apparatus became so choked with snow before I began the operation that the patient could not be made unconscious, and we had to give chloroform, neither of us very willingly. * * *

Accordingly, until some new anæsthetic is brought forward, I shall remain content with the bichloride of methylen made as first proposed by Doctor Richardson. I have never known it to fail, and I have never once been alarmed, or even made uneasy, by its effects in any one of more than 2,000 operations, many of them of unusual severity or duration.

From the foregoing, we may well believe that this anæsthetic deserves more attention and study than has hitherto been given it on the American side of the Atlantic.

Of late, nitrous oxide, so long in favor with the dental profession, has received considerable attention at the hands of anæsthetists, largely by reason of its supposed inoccuousness under any and all circumstances. In a recent number of the British Medical Journal* Dr. Frederick Hewitt discusses this agent, giving the preference thereto, in, for example:

1. Minor operations such as tooth extraction, opening of abscesses, and incision of whitlows; he believes thirty seconds sufficient to secure insensibility.

2. In the slitting up of sinuses, avulsion of toe-nails, and for temporary application of the actual cautery; here, however, he would employ nitrous oxide alternately with oxygen, and in expectation of securing anæsthesia in not more than one minute.

3. For rectal, vaginal, and urethral operations, breaking up of adhesions of joints, certain dental operations, and removal of post-nasal adenoids, he deems it advisable to mix the gas with the vapor of ether.

There are certain exceptions, however, to be noted in classes 1 and 2, viz: (*a*) Nasal and oral operations likely to be accompanied with hæmorrhage, and: (*b*) Operations requiring perfect quietude aud total muscular relaxation —for although nitrous oxide narcosis may be unattended by reflex movement, jacitation, and rigidity, these phenomena are liable to manifest themselves, more especially in strongly built men, highly nervous and hysterical subjects, alcoholics, habitual smokers, children, and those undergoing operations upon the genito-urinary passages.

In class 3, should be excepted, for obvious reasons: (*c*) All operations within the upper air passages where the actual cautery is employed —Some years since, during the Ether-Chloroform controversy, a patient, in the Massachusetts General Hospital, died from neglect of this precaution, the cautery igniting the pulmonary exhalations; this properly might be termed a death from ether, but the acrimony displayed in the aforesaid controversy led to suppression of the facts, and fatality was ascribed to "Bronchitis."

Nitrous oxide, or any admixture thereof, is inadmissible also in: (*d*) Children under three years of age; (*e*) Patients suffering from renal disease, or pleural pulmonary, or other conditions attended by embarassed respiration: (*f*) Extreme asthenia: (*g*) Collapse.

The preference in *a* and *b* is expressed for nitrous oxide with a small quantity of ether. In *c* for nitrous oxide administered intermittently with air, or for chloroform either alone or diluted with alcohol, the latter to be employed

* British Medical Journal, June 9th, 1888.

* October 5th, 1889, p. 758.

when the actual cautery is used; in many of these cases Dr. Hewitt deems it desirable to give gas and ether to deep etherization, and in the event of the operation being prolonged, to finish under chloroform, or chloroform and alcohol. Chloroform is also deemed the best anæsthetic in all prolonged operations in the mouth or nose; all operations in which venous engorgement would constitute a difficulty or danger; in abdominal surgery; all conditions causing such narrowing of the upper air passages as to produce temporary or abiding difficulty in breathing; affections of the lung or pleura attended by cyanosis or dyspnœa; marked atheroma; and advanced renal disease.

For *d* and *e*; for excision of tonsils; cases intolerant of ether; old people—over 60; extremely fat subjects; those suffering from affections of the air passages or pleura with but slight embarrassment to respiration; morbus cordis with feeble or irregular heart action, including fatty degeneration; extreme abdominal distension—in all is recommended a mixture of alcohol, chloroform, and ether.

In collapse or extreme asthenia—for example, neglected, strangulated hernia—the preference is given to pure ethylic ether sparingly administered from a towel cone.

The anæsthetic recommended for the lying-in room, (and also during the passage of renal calculi) is the alcohol-chloroform-ether mixture, or chloric ether; but where forceps are employed ether, *solus*.

That ether is preferable to chloroform for forcep delivery, or the A-C-E mixture to the chloroform alone in any stage of labor, will scarcely be accepted as true by the majority of obstetricians. Death from chloroform in such cases is positively unknown, and it alone perfectly fulfills the conditions of rapidity of action and lack of unpleasant odor; moreover, post-partum hæmorrhage is less apt to follow the use of this anæsthetic than ether, or the triple mixture.

As regards the A-C-E combination, it is a mystery how, in these days of enlightenment it obtains popularity, or how it secured the endorsement of a joint Committee of the Royal Colleges of Surgeons and Physicians. Given with plenty of air, and under the other conditions demanded by chloroform, it invariably gives the typical trace of the latter, proving that it is to chloroform chiefly that it owes its anæsthetic influence. If administered freely it frequently produces very rapid and dangerous fall of blood-pressure, such as has not been observed from chloric ether. It is then, simply a dilute chloroform, and by no means the best dilution; and, moreover, is unchemical, unphysiological, and every way unscientific. Whatever there may be of either good or evil that pertains to chloroform, ether, or alcohol, should be kept apart; and the habit of uniting the one, and at the same time attempting to prevent the undue influence of the other, must always remain a matter of uncertainty and doubt, especially since ether and chloroform are physiologically antagonistic; the danger to respiration and heart's action would be doubled but for this, and in fact the danger of cardiac arrest *is* enhanced—this has been proven by Ellis, Juillard and Dumont, and later by Ungar.

To return to nitrous oxide, the apparatus demanded is a disadvantage if the anæsthetic is to be employed away from the office or hospital; the same objection obtains to the combination of gas and ether vapor. The recent modification of Clover's apparatus as designed by J. Frederick Silk*, however, apparently does away in great measure with these objections, being comparatively portable, and easy of management.

In a discussion before the Brooklyn (N. Y.) Surgical Society, June 6th, 1889, Dr. Geo. R. Fowler remarked:†

For operations in the perinæum or within the abdominal cavity, or where the patient must be thoroughly relaxed, I think nitrous oxide is not to be depended upon; why, we do not know exactly. One patient will be almost suffocated, or seemingly suffocated; his condition appears to be alarming; and although apparently anæsthetized, yet a peculiar rigidity of the limbs would prevent an operation, say that for hæmorrhoids, for instance. On the other hand, I call to mind an occasion where Dr. Brush most successfully administered nitrous oxide for me in a case of laryngectomy. The anæsthesia was all that could be desired. The patient was under its influence during the removal of the larynx, a period of time covering one hour and forty minutes. I think in about three minutes from the time he removed the tube through which the anæsthetic was given, the patient rose up on the table and looked about wonderingly, and, had she been allowed, would have walked to her room. It was a perfect revelation to me, I had never dreamed that it could be accomplished; and when I rather hesitatingly gave my consent that Dr. Brush should administer nitrous oxide, I confess it was with a great many misgivings. But the result was all that could be desired.

Dr. Geo. W. Brush added further:

I have had quite a little experience for the last ten years with this anæsthetic, and have come to the conclusion that it is like all other anæsthetics—you can't always depend upon it. You will once in a while come across a case where you cannot use it, and therefore I have adopted this habit: In going to any case to anæsthetize with nitrous oxide, I generally take the three anæsthetics with me, and if I find the patient does not come under the gas readily for the prolonged effect, I give ether or chloroform as seems best. But ordinarily, or in the majority of cases, if it is desired to give

* British Medical Journal, Jan. 18th, 1890.
† Brooklyn Medical Journal, November, 1889, p. 709.

it for prolonged operations, it can be done. I gave it in one operation for stone, and the operation was forty minutes. The patient was thoroughly anæsthetized, and was practically recovered from it before he could be gotten in bed. * * * But as I have said, there will occasionally be a patient that will manifest some unpleasant symptoms for the operator, such as rigidity or unsteadiness, and occasionally (though this is rare) a case where anæsthesia is not complete. * * * * But experience leads me to this opinion, that where nitrous oxide can be used in surgery, it is safer and pleasanter for the patient, economizes the time of the operator, and anæsthesia can be maintained almost indefinitely with proper care on the part of the administrator, the patient being in better condition when the operation is over than if ether or chloroform had been used.

The wide spread belief in the utter inoccuousness of nitrous oxide; the fact that the shock liable to result where ether or chloroform are the anæsthetic agents is wanting; the absence of irritating qualities as well as of taste and smell; and the ease of its administration when armed with proper apparatus, are certainly attractive qualities, and lead to the belief that this agent deserves more extended trial. There are, however, some drawbacks, not the least of which is the ghastly cyanosis induced, and the appearance of impending suffocation which nearly all patients exhibit, and which naturally lead to the belief that carbonic dioxide accumulates in the circulation. These phenomena in the patient above referred to by Dr. Fowler were "present all the time," and he declares* that it was "all he could do" to preserve his equanimity during this trying period."

In spite of Dr. Brush's assurances, I felt far from comfortable, and whatever credit my colleagues, who witnessed the operation, may be inclined to give me for its successful completion, they will never know how much I was handicapped by that ashen-grey, death-like, upturned face, within a few inches of my own, during the whole time. * * * It was small comfort to know that one's patient was not being suffocated with one agent, while the suggestion was constantly before one's eyes that either that, or something else, was threatening to suspend animation or destroy life. Dr. Brush's assertion that they always look badly under its influence is somewhat reassuring, but his suggestion that the appearances are due to some chemical changes in the blood itself, only leads one to dread the possibility of there being some ultimate, if not immediate, danger resulting from its administration. Chemical conditions which could produce such changes in the circulating medium, even temporarily, are not to be disregarded.†

With regard to this somewhat anomalous state of apparently threatened death, and yet assured safety, Ulbrich, who employed the spectroscope for the purpose of determining the relation which nitrous oxide bears to the blood during administration, declares there is chemical union between the nitrous oxide and the hæmoglobin; however, this observation has not been confirmed, neither has it been shown that this union could be of a character that would not destroy or even temporarily abrogate the function of the hæmoglobin. Preyer, Buxton, and Mac Munn have made similar spectroscopic experiments, but without arriving at any definite or satisfactory conclusion. But Rothman, who severely criticized Ulbrich, claims to have established as a fact that blood saturated with nitrous oxide possesses exactly the same spectrum as oxyhæmoglobinic blood. If this is true, it is a point of incalculable advantage, since it proves the hæmoglobin is enabled to continue its function in spite of the presence of the gas in the circulation, and hence no harm can result from the prolonged administration of the anæsthetic—upon suspending the inhalation, the processes of oxydation are at once resumed by the admission of atmospheric air to the respiratory apparatus.

There is however, in any event, one source of decided inconvenience to the use of nitrous oxide, and which will debar its employment at night, and in specific cases. I refer to the altered color of the blood as it issues from the divided arteries rendering it difficult, and sometimes impossible, to distinguish from venous and capillary oozing. An arterial twig may, for several reasons, not always give off a *per saltum* stream, and yet provide sufficient blood to seriously embarrass the operator and to require a ligature; and while slight pressure, or hot water, may suffice to control capillary hæmorrhage, it is sheer waste of time to resort to such methods in case the flow is arterial.

Another point is mentioned by Dr. Fowler. In one case in which he desired to remove a portion of the lower jaw for necrosis, it was impossible to bring the patient under its influence. Ether was then substituted "but whether from the previous efforts with the nitrous oxide, or from some peculiar idiosyncrasy on the part of the patient, it was found impossible to control her powerful efforts at resistance without exerting undue force." He was finally compelled to substitute chloroform, under which the operation was brought to a satisfactory conclusion.

Still another objection is the peculiar condition of muscular rigity, as noted by Mr. Hewitt, which sometimes supervenes, and that is not at all relieved by pushing the anæsthetic, as is the case with ether, chloroform and methylen; on the contrary, it rather increases as narcosis deepens, until it sometimes extends to the muscles of respiration, which, of course, would demand instant cessation of further attempts toward anæsthesia with this agent—even the

* Brooklyn Medical Journal, February, 1890, p 70.
†Ibid.

combination with ether vapor does not overcome these defects; and this rigid condition, of course, precludes the use of nitrous oxide for operations about the anus, rectum, perinæum, or elsewhere, when a relaxed condition is necessary or desirable.

Arguing from his view of the absence of pulmonary engorgement, Dr. Buxton, in an essay read before the Bristol Dental Association, at Brighton in August last, made the statement that there is no ordinary intra-pleural or intra-pulmonary condition which should, in his experience, contra-indicate the use of nitrous oxide. This, however, is at variance with the experience of most anæsthetists. Dr. John Elliot, anæsthetist to St. Bartholomew's Hospital, London*, whose experience is inferior to none, remarks the only instance in which he ever saw really alarming symptoms follow nitrous oxide anæsthesia, was a case in which a slight pneumonia was present; nevertheless, he would not venture to employ it when there is any active morbid condition of either lung or pleura.

Cases also of mitral disease with tendency to pulmonary engorgement, should, I think, be considered unfit for the administration of gas. And it is contra-indicated, or at least should be administered with extreme care, in anæmic persons,—especially young girls; those with feeble and intermittent pulse; and old and feeble individuals. It has been said also that nitrous oxide is inadmissible for young children, though on what ground I cannot imagine, other than the fear inspired by the apparatus demanded for administration. Dr. John Elliot (just quoted) declares he has given repeatedly and found that they "take it extremely well."

As a general and universal anæsthetic, most anæsthetists will be inclined to give the palm to ether, since when administered in suitable cases it is practically without risk. The fact it stimulates the circulation—and also respiration up to a certain point which need not be passed if understandingly administered—is so easily demonstrated that it must be familiar to any-, and every one who has ever employed it. Some of our brethren of the British Isles are inclined to disparage its employment, especially as they regard and stigmatize the procedures attending its use that too commonly obtain in the United States, as a "cramming and drenching" method of anæsthesia. It must be admitted moreover, that this stricture is over true, for ether is so generally believed to be a safe agent that it is often employed in the most wholesale and reckless manner. When everything is ready, the inhaler is saturated and crowded down upon the patients mouth and nose, and there forcibly held in spite of the struggles of the sufferer until the desired result is obtained. It is simply a smothering process, most demoralizing to the patient, and disgraceful to the operator, who can plead only ignorance or cruelty. The patient is suddenly choked and strangled with a highly irritating vapor, without being permitted a single whiff of the much needed oxygen; all the sensations of impending asphyxia are present, and it is little wonder that shock sometimes supervenes—indeed it is a miracle it is not more often made manifest—or that bronchitis and other unpleasant sequelæ follow. Neither is there economy of time or material, as so frequently claimed, as it tends to render the patient resistant, and consequently more difficult to anæsthetize, and also to keep anæsthetized after narcosis has begun. It takes but a moment to educate, so to speak, the lungs and respiratory passages, and allow them to empty themselves of residual air by a gradual process of forced expiration; and this encourages the patient to breathe easily, calms his fears, prevents shock, and moreover, mitigates even if it does not wholly prevent, reflex muscular spasm and excitement. Then, when the ether vapor has filled the lungs, the inhaler may be pressed close to the face, and anæsthesia quickly follows. By following this method, less ether is required, and the boasted superiority of chloroform as to rapidity of action is proven largely delusionary.

I have said that, within limits, ether stimulates respiration. This is true; but, like all other stimulants, when employed for a prolonged period and in large quantities, it becomes a depressant, therefore in protracted operations it is desirable to keep the patient anæsthetized with a minimum expenditure of fluid. To do this is an *art*, attained only by knowledge and experience, and, once mastered, it is surprising what a small amount of vapor will continue an anæsthesia once begun.

Regarding vomiting, which is such a bugbear to some, I can only say that if the patient has partaken only of a minimum of some bland food for some time prior to the operation, nausea is not likely to attend the anæsthesia, but may follow upon partial return to consciousness; and even this may to great extent be controlled by first administering hypodermatically a minimum dose of morphine muriate. It should be remembered, however, that an empty stomach is as undesirable as a full one, and apt to be even more distressing as regards subsequent nausea. It has been suggested that a mixture of nitrous oxide and ether would do away with the unpleasant after-effects, but this is not borne out by experience; on the contrary, they are increased. But that ether is more likely to induce nausea and vomiting than chloroform, is in the main true, though this in no inconsiderable measure depends upon the way in which

* Birmingham Medical Review, February, 1890, p. 67.

the anæsthetic is administered—out of 144 cases of chloroform, and 78 of ether anæsthesia, as conducted at St. Bartholomew's by Dr. Elliott, 54 of the former and 34 of the latter had after-sickness; and it is equally true that one does not encounter such aggravated and obstinate sickness after ether, as occasionally supervenes from chloroform narcosis.

It is often dangerous to administer ether to the excessively obese or to extremely full blooded individuals, especially those possessed of an abundance of abdominal fat; and also, for like reasons in part, to alcoholics. Other cases not suitable are: Children and old people; operations wherein a flame or cautery must be brought in close proximity to the face; operations about the face; patients with well marked bronchial affection. One objection also made regarding this anæsthetic, viz. the production of an abundant secretion of pharyngeal mucous (sometimes so excessive as to cause a serious obstacle to respiration by collecting about the aperture of the pharynx) is easily overcome by closing the mouth—by lifting the lower jaw—when the accumulation passes into the œsophagus and thence to the stomach.

The instances wherein chloroform is often preferable to ether are:

1. Children, because heart lesions are rare in childhood, or when present are pronounced, and every other organ is healthy or supposed to be. Further, it requires no apparatus that excites fear, and moreover, may at first be given so insidiously as to establish partial anæsthesia without the knowledge of the little patient.

Ether on the contrary is alarming both from its vapor and the course necessarily employed, and is irritating to the delicate bronchial mucous membrane, while the cold produced may cause an attack of acute bronchitis or pneumonia.

2. Old people, who as a rule take extremely well, especially if given by means of the drop bottle, and a single thickness of lint, the latter held in the shape of a dome over the nose.

3. Operations about the face or where the cautery or a light is employed in close proximity to the latter.

4. Cases where there is any lung infection—affections of the pleura, however, do not contraindicate ether, as a rule, if understandingly administered. Although chloroform is to some degree a pulmonary as well as cardiac depressant, it is preferable to ether in spite of the antithetical action of the latter, for reasons obvious, and already embodied in this paper.

5. Mitral disease with pulmonary engorgement—the same arguments as in 4, here hold good in part.

6. Where absolute muscular relaxation is required, as for diagnosis of tumors, of luxations of hip or shoulder joint, etc.

7. In some abdominal operations—notably herniotomy, where coughing is to be avoided.

8. In cases where venous engorgement is a decided advantage, as in ligatures of the large arteries—for example, ligations of the carotids or subclavian.

9. Very fat people.

There are also certain classes of people with whom it behooves one always to be on his guard as regards chloroform adminstration, viz.: Confirmed and chronic alcoholics: Hysterical, nervous, and excitable personages: Rickety and strumous children, especially subjects of amyloid disease, and: Patients with feeble and intermittent pulse who are liable to attacks of syncope.

In conclusion, it may be said that neither clinical experience or experimental research has yet been able to demonstrate positively the exact condition to which each of the anæsthetic agents is applicable, or under which any one may be most advantageously employed. Judgment must be exercised in each individual case, based upon the condition and idiosyncrasies of the patient, and the physiological phenomena likely to be induced by the anæsthetic; and when the choice is made, whatever agent it may be, it should be administered with extreme care. Moreover, it is always well to have more than one anæsthetic at hand, as it is oftentimes advisable, and even necessary, to change in the midst of an operation.

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RECOVERY FROM SYMPATHETIC OPHTHALMIA.

BY DR. ROBERT WINTHROP GILLMAN.*

Recovery after well established sympathetic ophthalmia is of so rare occurrence, that I deem the history of the following cases of interest:

CASE 1.—George R., 55 years of age; admitted to St. Mary's Hospital Feb. 12th, with the following history: On Sept. 2d, 1889, while working in a lumber-mill, was struck in the left eye by a piece of wood thrown from a saw. Arrived in Detroit eight days after injury, and consulted a German (woman) "eye doctor." He could then, he declares, distinguish light from darkness with the injured eye, while the sight of the other was as good as ever. He applied daily to this woman until Feb. 2d, when the right eye suddenly became painful, and "by night was blind."

On admission, the injured (left) eye, presented a frightful picture of anterior staphy-

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loma, sight being, of course, entirely lost. The right eye, ten days after sympathetic trouble began, presented the following features: Chemosis of palpebral and ocular conjunctiva; cornea hazy; iris non-active, dull, muddy looking, and clearly showing *serous* inflammation, —instead of the *plastic* form, which is the common character in sympathetic ophthalmia. There was increased tension (+2) of globe; anterior chamber shallow, and pupil dilated—glaucoma.

As patient complained of great pain in both eyes, the staphylomatous condition of the left was relieved by paracentesis through point of staphyloma; and the glaucomatous condition of the right was reduced by making a sclerotomy. Dr. Smith enucleated injured eye, and made an iridectomy in right eye in order to stop glaucomatous condition. Next day man was completely free from pain, and remarked he could distinguish light from darkness; and each day improved. On 5th day after operation, he could count fingers at 12 inches from eye, and on the 20th, at 20 feet distant. Eye is rapidly clearing, and to-day, March 26th, he reads Snellen 100 at 12 feet.

Case 2.—Edith C., 9 years of age, was standing before a window, on the evening of Nov. 11th, 1888, holding a lamp, when a chip of wood flew through, breaking glass, a piece of the latter cutting through the lower lid of the left eye, piercing sclero-corneal junction; sight was at once lost to that eye. Father consulted a physician, who warned him of the possibility of the sympathetic inflammation attacking the other eye, and advised to watch well, and if the sound eye became painful to have the injured removed. In Nov., 1889—one year after injury—parents remarked that child did not see as well as usual, and, consulted a local practitioner, who treated for ten days. Observing she was growing worse, parents brought to Detroit, and consulted Dr. Smith, who advised immediate enucleation. She now could not count fingers at any distance; could barely see enough to get about room. There was present in the right eye a plastic inflammation of iris, and an exudation of lymph in pupillary area, so that fundus could not be seen with ophthalmoscope; cornea hazy; pupil non-active, due to plastic adhesions of iris to capsule of lens; tension normal. There was no redness, no pain, no lachrymation, and no photophobia. All child complained of was inability to see objects. On February 21st, the injured eye was removed. The right eye remained in about the same condition for several days; then, the dull appearance seemed to diminish; child remarked, "things seemed clearer." On the tenth day after operation could be remarked a decided change in the appearance of the eye, as there was a normal reflex of light from the cornea, which before had not existed, and all diseased condition of iris had disappeared, though there was still an exudation of lymph blocking up the pupil. Child could now count fingers at 7½ feet, and read very large type (Snellin 13) at 5 inches distance. Patient was discharged March 10th, but advised to return in a few months to have an artificial pupil made, on account of inflammatory membrane occluding pupillary area.

On examination of the injured eye after removal from the orbit, the scar that was so plainly seen extending from middle of cornea to 4 m. m. beyond sclero-corneal margin on sclerotic, was found to be right through the ciliary body, forming a dense cicatrical mass that point of knife could only with difficulty be made to pierce. The sympathetic ophthalmia attacking the right eye so long after the wound of the left eye—12 months—can satisfactorily be accounted for by the contraction of this large cicatrix, thus producing an irritation of the ciliary nerves—one of the chief causes of sympathetic ophthalmia. An uncommon feature was the absence in the right eye of pain, congestion, lachrymation, etc., which misled the father, who was on the outlook for these symptoms. The after treatment consisted in keeping patient in darkened room, and the administration of mercurials.

The orbital cavity after enucleation calls for no treatment, unless it is simply to wash out with some non-irritating antiseptic solution—mild solution of corrosive sublimate 1-10,000, or boric acid gr. x—℥ j, or simply boiled water; and then only once in 24 hours,—not oftener. Mr. Lawson, of London, who has, perhaps, enucleated more eyes than any oculist in Great Britain, recently remarked he had never seen evil effects follow removal of eyes, and, he attributes these results to his rule of *not meddling* with the orbital cavity after enucleation.

CLINICAL NOTES.

BY JOSEPH ADOLPHUS, M. D.

Every physician of experience has his favorite prescription for the relief of this or that ailment, some for internal use, others for local application, hence I may be pardoned for embodying some of my own.

FISSURE OF ANUS.

This is often a most trying malady, difficult to relieve. Nevertheless I have sometimes succeeded in very rebellious cases by: *First.*—Cleansing the fissure with permanganate of potassa and carbolic acid, each four grains to the fluidounce of water. *Second.*—After drying thoroughly, working into the fissure a combination (equal parts) of finely powdered iodoform and boracic acid. Repeat packing every

day, previously washing the parts in hot carbolic solution.

Another good formula published by me some years since is: Tannin and salicylic acid, each 1 drachm; glycerin, 1 ounce. Apply daily, first being sure the parts are thoroughly cleansed with hot carbolized water in which has been dissolved a little borax.

Still another useful application consists of a drachm of chloral hydrate dissolved in a half pint of a 5 per cent. solution of potassium chlorate. The parts are touched frequently, strict cleanliness enforced, and the bowels kept free with Rochelle salts.

PLEURODYNIA.

This is a very harrassing nervous disorder, and when acute attacks supervene the suffering of the patient is frequently terrible, and to him alarming. I have never found but two remedies therefor that I deemed valuable, —gelsemium and ammonium muriate. I use either, preferring the single remedy and in full doses. Gelsemium I employ in ten drop doses of the tincture, repeated every hour.

In one case I gave half a teaspoonful at one dose, with speedy relief, and the patient was as much alarmed as he was astonished; for while pain was relieved, the vision had nearly fled, and everything he saw appeared double, though this lasted for but a brief while.

In another case of equal severity, I gave thirty grains of muriate of ammonia in water, marked relief being afforded in less than thirty minutes, and entire cessation thereof after two hours. The medicament was repeated in twenty grain doses every six hours, the cure being both prompt and permanent. These two cases were of the extremely atrocious kind, for the breathing was in very short jerks and the patients half asphyxiated.

In another case, treated some years past, the diaphragm, as well as the intercostals, was a seat of pain. This patient nearly died from asphyxia; the treatment was large doses of tincture of gelsemium, and the cure rapid.

VENEREAL WARTS.

I have just succeeded in relieving a bad case —one of those hard-heads that "go the rounds" and beat Beelzebub. I applied a strong tincture of arbor vitæ (*Thuja Occidentalis*) made from the green plant with strong alcohol. A camel's hair pencil wet with the tincture was applied to each wart daily; and it was wonderful to see these decorations dwindle and wither off this ancient hero of so many lusty fields of erotic contest.

SOFT CHANCRE.

I invariably, and the first thing, pack a chancerous sore with salicylic acid. It does better than anything else, and in most cases healing rapidly follows. When the chancre evinces a disposition to enlarge, I wash with liquid hydrastis, and then fill with boracic acid and bismuth, equal parts.

A solution of chloral hydrate often answers admirably as a local application in spreading chancre. But when I find such a one bound to go to the "demnition bow-wows" anyway, I fill it with potassium chlorate reduced to an impalpable powder. The suffering induced is next thing to squeezing the man's testicle, but the good work done by the chlorate in these cases is truly deserving of monumental honor. I have in this way relieved the worst cases that can be imagined.

GONORRHŒA.

I want to say something good regarding kaolin, or fire-brick clay, as an injection in the first stage of gonorrhœa. The clay is mixed with warm water until of the consistency of milk, and allowed to stand for a few moments until the coarse particles have settled. The upper stratum, which holds the unctious clay in suspension, is now employed as an injection from four to six times a day as seems advisable, and also at least once during the night. The clay is antiseptic, and soothing, and fulfills all the desired indications; it keeps the irritated urethra free from pus, destroys the pus globules, arrests secretion, and soothes the mucous membrane. Used "early and often," this injection in my hands has proved superior to anything I have tried, and my trials embrace a wide *repertoire* of remedies. It is, however, of no value in the second stage of clap, for which I employ boracic acid, pinus Canadensis, and fluid hydrastis.

CHRONIC UTERINE DISEASE.

I am of the opinion that nine-tenths of these cases are the result of catarrhal inflammation of the uterine mucous membrane, with, perhaps, also of the Fallopian tubes, which latter may, and often does, lead to ovarian engorgement. Uterine tonics are here of great help, and I employ them largely; bromides are also useful, especially when given in conjunction with ammonium muriate.

Constipation is a great factor in these cases, and to overcome it I employ podophyllin, leptandrin, and hyoscyamus, in very small doses. I am almost sure this combination is a uterine tonic by way of reflex action, for it has done excellent work in many old chronic cases.

A good formula when there is pain and weight in the uterus, is:

Potassium bromide, ʒ j.
Ammonium muriate, ʒ iv.
Fl. ext. coca,
Glycerin, ää ʒ ij.
Dose: Teaspoonful three times a day.

PALPITATION OF HEART.

I relieved a severe case of cardiac palpitation lately by adding bromine to Fowler's solution of arsenic until it began to color, administering in five-drop doses thrice daily; increase one drop daily after third day until the stomach rebels or the eyes exhibit the effects of the medicine. Now cease for a few days; then begin again, administering a few drops less than the last dose. This is an old prescription of mine, and answers an excellent purpose in many nervous diseases. I have also employed hydrastis and nux in connection therewith, when the latter seemed desirable.

MENORRHAGIA.

A year ago I treated a severe case of menorrhagia in a lady just entering upon—or who had just passed—the critical period of life. The uterus was large and spongy, the cervix being hard swollen, elongated, and quite tender to the touch. She had been told that cancer was slowly developing.

I treated her with drop doses of pulsatilla, given every three hours. The result was remarkable, as after five days the hæmorrhage ceased, being followed by a leucorrhœa, which in time succumbed to the medicament. I have found this a very reliable remedy in the menorrhagias of women in advanced life, and, moreover, it is a fairly good remedy oftentimes in certain cases of dysmenorrhœa, notably those attended with pelvic cellulitis; and the latter is more frequently a complication than is generally imagined, I find.

INFANTILE PNEUMONIA.

In some cases of infantile pneumonia, also, pulsatilla proves a most satisfactory remedy if given in minute doses, say five drops in four ounces of water, a teaspoonful every hour, or oftener, as may be demanded. The cases in which it is most applicable are those distinguished by small quick pulse, weak heart, pale face, short breath, pleuritic complication, short hacking dry cough, and hot skin. It works wonders sometimes. The great trouble with pulsatilla, however, is, to secure a good reliable preparation, most of that found in shops being wholly inert.

CATARRH, OZŒNA, ECZEMA, AND SKIN DISEASES.

The sulphide of calcium in one-fifth grain granules is a powerful medicament in catarrhal conditions of mucous membrane, and in many skin diseases. It relieves many cases of ozœna and eczema if continued steadily for months, and is best taken on an empty stomach immediately on waking in the morning, again an hour before dinner, and still again on retiring to bed at night.

RINGWORM.

To combat this parasitic malady I find oleate of copper generally efficacious; I employ sixty grains of the oleate amalgamated with one or two drachms of lard, rubbing into the diseased surface thoroughly. Success depends alike upon the strength of the medicament, and the persistence with which it is employed.

ATLANTA, Georgia.

THE HACKING COUGH OF PHTHISIS.

This is at the same time one of the most distressing, and most difficult to control, of the phenomena of phthisis. The incessant coughing, especially the dry cough, renders almost any treatment unsatisfactory. Yet, recently, to my satisfaction and surprise I found fluid extract of berberis aquifolium, in thirty-drop doses four times a day, most effective; it was given in a glass of wine. Two special advantages of this medicament are: 1. It does not lose its effect; 2. It also acts as a decided tonic.

To relieve profound depression and the melancholia that frequently accompany phthisis. I find the fluid extract of kola nut, in ten-drop doses, beneficial when given in a glass of wine of coca (Lorini); the kola enhances the therapeutic activity of the coca. Also, the addition of coca wine thus prepared to each dose of cod-liver oil, enables the most delicate stomach to retain the latter.

J. H. DE WOLF, M. D.,

519 North Charles St., Baltimore, Md.

LAPAROTOMY FOR PERSISTENT PAIN.

BY BARTON COOKE HIRST, M. D.

Philadelphia Hospital. R. R., a young woman, with the history of an oöphorectomy performed two years before for pain; six months afterward there had been relief from suffering; then a return of the menstrual flow, which had since recurred regularly, associated with increasing pain on the left side, until finally she would be seized with convulsive attacks during the menstrual periods. On symptomatic grounds, a second laparotomy was advised.

On the left side, about a third of the ovary had been left behind from the former operation, which was now found tightly bound with four loops of a short black silk ligature entirely unabsorbed. The remnant of ovary contained a large, recently ruptured, Graäfian follicle. The case is instructive as showing the importance of a complete operation when ovaries are removed, and in demonstrating the length of time that ligatures may remain in the abdomen unabsorbed.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

—Published By—

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DETROIT, MICH., APR. 10, 1890.

Editorial.

THE DANGERS OF EXPERIMENTAL HYPNOTISM.

To seek novelties, especially of a startling nature, is a peculiarity inherent to the human race; and if they are tinctured with the mysterious and occult, the interest is enhanced. This is particularly applicable to hypnotic suggestion, which, as an experimental fad is running riot among all classes and conditions of life, *seances* being held not alone in public halls and in hospitals, but also in private boudoirs and drawing rooms.

So far as therapeusis is concerned, the benefits claimed have not been verified, but, on the contrary, hypnotism has proved a two-edged sword; the sharpest concealed and looking backward. It is a form of psychism, the alphabet of which has not been mastered; a contact of mind with mind, and mind with matter, prone in inexpert hands to subserve evil rather than good—and even with the expert is often fallible, and frequently pernicious. Some years since Dr. Taylor, author of Medical Jurisprudence, seized with the spirit of prophecy, volunteered the surmise that the day was not far distant when "mesmerism"—as hypnotism was then termed—would demand a prominent place in criminal jurisprudence; and this prediction is rapidly being verified. Already we find it made a plea by which to escape the punishment of crimes, from petty larceny to rape; it is the excuse of the mother who destroys her illegitimate offspring, and of the depraved who seek to avoid the penalties of a guilty passion.

Again, those most amenable to hypnotic influence are of the hysterical, or weak-minded class, either inherent or acquired, and though perhaps afforded temporary aid thereby, the morbid conditions existing are ultimately exaggerated and enhanced. The chief physiological phenomenon induced is *cerebral anæmia;* and, paradoxical as it may seem, the larger number of cases are practically mitigated by exaggerating the very pathological condition that demands relief. Little wonder, then, that the unfortunates are too frequently rendered unfit for anything but the hospital and insane retreat, for it is notorious that suggestion has rapidly developed, and firmly established, mental maladies that were primarily but latent, or in abeyance.

Great harm has been done also, by permitting the lay press to revamp and garble the experiments of Kraft-Ebing, Charcot, and Bernheim, for sensational purposes. Such has tended to foster the calling of "Clairvoyants," "Faith Curers," "Christian Scientists," "Vitapathic" frauds, and kindred charlatans. Worse, it has provoked private experiments and *seances* that frequently have led to most unfortunate results. Even school children have been bitten with the craze, and a Miss of 13 years, by discovery of her power in this direction, succeeded in relegating three of her school-mates to invalid couches, and establishing in one an inveterate chorea.

Unfortunately, in this country hypnotism is regarded as an experimental science, beyond the reach of the statutes. That it is not so considered abroad, is evidenced by the fact the Minister of War of France, recognizing its influence in the production of hysteria and kindred alien affections, has forbidden its practice by army surgeons. Also, at a supper party in Paris, recently, one of the company hypnotized a girl, who could not again be roused until taken to the residence of a physician, and even then recovered consciousness only after prolonged efforts; the whole party was taken into custody by the police and not released until the next day. In Nuremberg, a like accident occurred, the principal in this instance being a commercial traveller, the victim a waitress in a restaurant. Eight days imprisonment and hard labor, supplimented by a heavy fine, will probably henceforth moderate the ambition of the former to enact the rôle of a hypnotizer.

As already intimated, even when practiced by competent medical men—and very few are competent—for remedial purposes, the results have not justified the experiment save, perhaps, in a few isolated cases; ulterior consequences and unpleasant accidents have occurred again and again; and it should be distinctly understood by both the medical profession and the public at large, that hypnotism is ever a source of danger, to be employed only as a *dernier ressort*, and that it has, not infrequently, permanently impaired the moral and emotional control of patients. The physician before employing or recommending, is bound to weigh the question most carefully—as carefully as he would an operation within the calvarium for the relief of an obscure mental trouble.

As regards experimental hypnotism as practiced by the laity, it is time its dangers were fully understood, and a complete halt therein

called, enforced if need be by stringent stautory enactment. To endanger health, or to rob one of his or her mental status, is certainly as criminal as the picking of a pocket or an assault upon the person.

THE CONDITIONS PRODUCTIVE OF ALBUMINURIA.*

II.

A respectable number of pathologists attribute albuminuria to a primary alteration of the blood, that of the epithelium being secondary. The case is well stated by Jaccoud, who adopts this view in part (Pathologie Interne, t. ii, p. 485).

Semmola, in 1850, pointed out the influence of diet on the elimination of albumen in Bright's disease, and propounded the theory that "Albuminuria depends on a vice of nutrition, which consists in a modification of the albumen of the blood by default of cutaneous respiration."

Among the observers who have maintained the doctrine of the primordial alteration of the blood, some have simply affirmed an abnormal increase in the proportion of albumen; others have alleged a vicious evolution of the albuminoids, and a molecular alteration of the albumen of the blood. The first theory is that of Gubler. The second is formulated by Jaccoud in his thesis of 1860 as follows: "Albuminuria has for its cause a deviation from the normal type of the nutritive movement; this deviation consists in a temporary or persistent perturbation in the phenomena of assimilation of albuminoid matters.

This latter theory has for its support a series of experimentations which prove that the filtrability of albumen varies according to its molecular state as artificially modified by injections of water, albumen, or salt in the blood; by the injection or inhalation of certain substances which directly alter the blood globules. Semmola, who holds to this view, supports it by experiments like these: A robust man is attacked with Bright's disease *a frigore;* three ounces of blood, are taken from the arm, the serum separated, and then a half ounce injected into the jugular of a dog which has been previously bled to the amount of half an ounce. The urine of the dog becomes temporarily albuminous, therefore the albumen contained in the serum of the patient was in a molecular state which rendered it unfit for assimilation. Thirty-five days later, the patient is well, and is bled again and another half ounce of the serum injected into the jugular of a dog. Now there is no trace of albumen in the animal's urine. It is concluded, therefore, that the albumen of the first serum was, by the fact of the disease, altered and unassimilable; the albumen of the second serum had become, by the fact of recovery, completely assimilable.

Some dogs were coated over with an impermeable varnish, and became albuminuric; the serum of these animals was injected in the veins of other dogs; they could not assimilate it, and became temporarily albuminuric. Serum taken from healthy dogs and injected in the same way, always failed to produce albuminuria.

In the case of the dogs, the albuminuria was only temporary, ceasing with the elimination of the morbid albumen. In the victim of Bright's disease, according to Semmola, the albuminoids of the blood have been more or less permanently altered by suppression of the cutaneous functions (as occurs in taking cold), whereby they become diffusible, readily filter through the renal epithelium which they irritate, causing a glomerulo-nephritis, with fatty degeneration of the epithelium. Both Semmola and Jaccoud also affirm that a similar pathological change in the albumen and in the renal filter, may come about as part of the morbid processes attending septicæmia and the infectious fevers.

The main facts, as above stated, are not disputed. Not only does the blood-serum from nephritic patients, when injected in the veins, cause albuminuria, but some experimentors, as Claude Bernard, Lepine, and Pavy, have obtained the same results from intravenous injections of healthy serum. No substance is more certain to cause temporary albuminuria when injected than egg-albumen, and Minkle, Pavy, Vulpian, and others have noticed the same pathological phenomenon after injections of milk. Pavy has determined albuminuria by intravenous injections of gelatin, and Estelle and Faveret by injections of serin and sero-globulin. The injection of peptone is said to have caused peptonuria, but in no case has it caused albuminuria.

Lecorché and Salamon, in summing up the data already acquired respecting the rôle belonging to albuminoid matters in the blood in the production of albuminuria, affirm that whatever be the kind of albuminoid matter injected into the veins of an animal, unless peptone be excepted, the presence of this matter in the blood determines albuminuria. In all cases, the substance injected is found in part in the urine, mingled with a certain quantity of the albumen of the plasma. This albuminuria is the ætiological result of the alteration of the renal epithelium by the substance injected, which acts as an irritant foreign body; what is true of the albuminuria consecutive to injections of egg-albumen, is applicable

* Continued from page 61 (MEDICAL AGE, Feb. 10th).

to all the experimental albuminurias of the same order. There is no occasion, then, to attribute to these albuminurias a particular interpretation; the albuminoid matters injected do not act at all by virtue of their special chemical properties, different molecular state, greater diffusibility, etc., but simply like any heterogeneous substance introduced into the blood.*

It need hardly be said that the theory of Gubler, which attributes albuminuria to excess of albuminoid matters in the blood, utterly lacks experimental demonstration.

Owen, Rees, Magendie, and others, have affirmed that the injection of water in the veins causes albuminuria; Westphal and Stokvis have, however, shown that when this phenomenon takes place, it is due to the sudden rapid introduction into the circulation of a great quantity of water which dissolves the red-globules, setting free the hæmoglobin; that it is the latter principle which passes out in the urine, causing hæmoglobinuria, and not albuminuria. There is also a sudden elevation of the blood-pressure in the kidneys, which results in capillary hemorrhages and hæmaturia. Stokvis has shown that the slow and gradual injection of a considerable quantity of pure water does not determine either albuminuria or hæmaturia.

What has been well established, both by experiments on animals and by clinical observation and experimentation, is that albuminuria is often of toxic origin. "If," says Lecorchè, "the presence in the blood of a product as near like assimilable albumen as the white of egg suffices to cause the elimination of albumen by the kidney, how much more surely will albuminuria be provoked by substances having no relation whatever to the tissues of the organism?" Hence the rule is laid down that every chemical principle foreign to the economy that is introduced in solution into the blood, becomes to a greater or less extent a cause of albuminuria, *i. e.*, by irritating and altering the constituent elements of the renal filter. Among these poisons of the renal parenchyma, we have:

(*a*) Cantharides, which affects the epithelium of the glomerules and tubes, causing an acute desquamative glomerulo-nephritis; blood, albumen, and epithelium appear in the urine. Slow poisoning of animals with cantharides brings about the lesions of chronic nephritis. Aufrecht, by injecting under the skin of rabbits minute doses of cantharides every day for several weeks, succeeded in reproducing diffuse parachymatous, and diffuse interstitial, nephritis with contracted kidneys.

(*b*) Slow poisoning by lead has produced the same degenerative changes in the kidney, as a result of the experiments of Charcot and Gombault.

(*c*) The mineral acids, oxalic and chrysophanic acids, ammonia, etc., are capable of producing acute nephritis with hæmaturia and albuminuria.

(*d*) The same may be said of turpentine, copaiba, alcohol, and chromic acid.

(*e*) Phosphorus seems to be of the type of poisons that have a destructive action on the renal epithelium. The essential lesion is a fatty degeneration of the epithelium; phosphorus does not appear to cause inflammatory changes in the kidney. Its action is first exerted on the tubules, and consecutively on the glomeruli. Albuminuria in phosphorus poisoning does not appear until the endothelial lining of the glomeruli is affected.

(*f*) Arsenic, antimony, mercury, iodoform, determine lesions similar to those of phosphorus.

(*g*) Among the toxic agents productive of albuminuria must be mentioned, lastly, microbes. Grawitz has caused albuminuria by injecting in the jugular veins of dogs, spores of fungi (*penicillium* or *eurotium*); Capitan has done the same with brewer's yeast (*Saccharomyces cerevisiæ*); Charron has employed the *micrococcus pyo-cyaneus* with similar results.

It is hardly necessary to call attention to the fact that clinical authorities (as Bouchard, Grancher, Mouret, etc.) have of late constituted a new nephritis which they call *infectious*, in which the ætiological factor seems to be the peculiar microbe causing the disease (diphtheria, scarlet fever, erysipelas, etc.) to which the nephritis is secondary.

* *Traité de l'Albuminurie et du Mal de Bright.* Paris, 1888.

ON THE ELIMINATION OF MORPHINE BY THE MILK OF THE NURSING WOMAN.

There are a number of cases of poisoning on record where it has been clearly shown, that small doses of opium given to the nursing woman, are capable of producing more or less grave toxic and even fatal symptoms in the nursling.

Fehling, at the Congress of Magdeburg, stated that after administering to wet nurses opium and morphine, he did not observe any serious consequences in the infants excepting a little constipation. Tarnier and Chanteruil have made experiments on animals which agree with those of Fehling. We know, however, that Baumgartner has found in the milk drawn from the breasts of wet nurses, all the elements of opium previously administered. Trœhner and others have demonstrated the same fact in their experiments on animals.

Recently Pinzani, of Boulogne, made several experiments on wet nurses, giving to each by mouth, laudanum in thirty drop doses, or

morphine in increasing doses—one-half grain the first day, two-thirds grain the second day, and so on, for six consecutive days, the final dose amounting to between three and four grains. The milk of these women was drawn night and morning and analyzed; the albuminoid substances were precipitated by Ritthausen's method, so as to obtain what morphine remained, in order to transform it into apomorphia and obtain the reaction peculiar to this substance, according to the method of Pellagri with its different typical colorations.

These interesting experiments, so important in their bearing on practice, prove that morphine given in therapeutic doses does not pass into the milk in the state of morphine, but undergoes a change in the organism into apomorphia, as Marmé has shown, and is eliminated in this form in the milk of nursing women. He affirms that the alkaloid, when so eliminated, is not capable of producing any serious troubles in the health of the nursling.

Recently Fabini (whose report is published in an Italian paper) has reviewed Pinzani's conclusion. This writer cites a case of his own where a babe was poisoned by laudanum given to a wet-nurse for medicinal purpose.

THE BARBER'S SHOP AS A SOURCE OF CONTAGION AND DISEASE.

The frequency with which parasitic sycosis has been traced to its source in the barber's shop is almost characteristic of the disease. Twice, recently, the Lancet, of London, has called attention to this subject, in one instance recording four cases, all of which owed their origin to the manipulations of a single knight of the razor. The disease in these instances, and no doubt with justice, was attributed to the employment of unclean brushes and decomposed or decomposing soap-suds. That the razor may also be a source of infection, and a cut therefrom occasion the transference of more serious disease than sycosis by the mixture of blood and lather, is also patent. The writer has recently had his attention called to three such cases, the disease being had from different shops.

This is a danger that lurks in all barber shops, from the poorest to the best, and in America, in spite of the boasted superiority of its "tonsorial palaces," as well as elsewhere. The fact that the barber shop is cosmopolitan, also accounts for the greater frequency of sycosis and kindred disease than in Great Britain, in proportion to the population. The middle and upper classes abroad do not patronize barbers except for the scalp, every individual being familiar with the razor, so far as the removal of his own facial hirsute appendage is concerned; and it would be better if Americans adopted this course. The immunity of the latter from diseases so far as it obtains, may be attributed more to "good luck" than good management; for though it is customary in many instances to provide personal cups and brushes, the individuality of these is not religiously respected, save in rare instances, and even then they are not put away in a perfectly cleanly or aseptic condition.

It is notorious that cleanliness, so far as utensils are concerned, is an attribute sadly lacking in even the best barber-shops; and the patrons owe their fortunate escape from contagion largely to the accidental facts that hot water is employed to make lather, and alum applied to the skin to repress the oozing and irritated condition that results from too close application of the steel. Not only are razors illy cleansed, but they are also sharpened upon filthy hones with the aid of soap-suds taken from the common stock cup; and the only attention they receive at any time is a perfunctory wiping, first with a scrap of newspaper, and then with the palm of the hand.

Whether it is possible to suggest any measure that will lessen the dangers indicated, is somewhat questionable. The true solution lies in every man wielding his own razor and brush, since the antiseptic precautions that are really necessary are beyond the energy or care of the average barber. Still, the danger might be materially lessened if the common shaving brush and razor were invariably dipped in hot water before being applied to the face of a customer, and also the practice adopted, now common among hair dressers abroad, of using a new and separate piece of soap for each individual operated upon. The uncomfortable possessor of a sycosis infection will give his emphatic assent to the truth embodied in the old proverb of an "ounce of prevention,' etc.

Book Notices.

A New Medical Dictionary. By George M. Gould, B. A., M. D. Half morocco, 8vo. pp. 519. Price $3.25—with thumb index $4.25. Published by P. Blackiston, Son & Co. Philadelphia.

Notwithstanding the vast growth of medical literature during the past decade, there has been no dictionary, not encyclopædic, accessible to the physician and student that has kept pace with the coinage of new words and terms. The whole science of medicine has been largely revolutionized within a score of years, the growth of specialism in itself increasing the vocabulary by some thousands of words; and yet the busy practitioner or student has been offered no compact, thorough, dictionary to which he

could turn for a definition absolutely necessary to the proper understanding of what he might be reading.

This want has led to the preparation of the above-mentioned work, which is a handbook of sufficient scope to include everything of use to the general practitioner and student, and at the same time be a compact, handy volume, occupying but little space on the crowded desk, giving exact information and quick reference. The wants of the specialist have also been taken into consideration, and the seeker after more extended knowledge will find precise information relating to matters in his special branch, including etymology and meaning of words.

The author in his preface says his aim and scope was:

1. To include those new words and phrases created during the past ten years—a period rich in coinages—which appeared destined to continuous usage. There are certainly thousands of these, and in their compilation I have especially endeavored to cover the latest results in the study of bacteriology, ptomaines, leucomaines, electro-therapeutics, embryology, physiology, pathology, etc., and in the various special branches of medicine, such as ophthalmology, otology, laryngology, gynæcology, etc.

2. To frame all *definitions* by the direct aid of new, standard, and authoritative text books, instead of making a patchwork of mechanical copying from older vocabularies.

3. While neglecting nothing of positive value, to omit obsolete words, and those not pertinent to medicine except in a remote or factitious sense.

4. To make a volume that will answer the needs of the medical student and busy practitioner, not only by its compactness of arrangement and conciseness of definitions, but also by its convenience of size and price.

In other words, two objects have been kept in view, viz.: to make the Dictionary scientific and practical. To secure this result it was necessary: To include all useful, and exclude all useless, words. To make all definitions as compact and short as was consistent with clearness and adequate comprehension. By logical association and abundant cross-references, to make it easy to find a word or term. To aid comprehension of a subject by keeping, so far as seemed wise and best, such words and phrases together as were logically bound up with each other. To aid practical men by including in order all official, and the most used officinal articles of the Materia Medica, together with all preparations of the same, and the maximum and minimum dosage of each. To tabulate in alphabetical order, large groupings of facts, and in such a manner that a quick and thorough recognition of the bearings and relations of each and of the whole are readily seen. The tables of bacteria, leucomaines, ptomaines; of muscles, nerves, arteries, ganglia, plexuses; of abbreviations, prefixes, and suffixes used in medicine; of comparison of thermometers; of weights and measures; mineral springs; vital statistics, etc., will prove very serviceable, and are not to be found in any other work of the kind. To make all definitions and classifications reflect the latest scholarship. This was effected by means of direct compilation from the most authoritative and recent text-books in each special and general department of medicine. To give the work, so far as its scope would allow, a broad usefulness by furnishing, beside the definition, accessory information germane to the word or subject, such as the tabular matter, preparations, effects, uses and dosage of drugs, tests in urinalysis, etc.

These tables will be found unique and useful features, of special service to the student; those of the micro-organisms, ptomaines, and leucomaines being the only effort that, in our knowledge, has ever been made to classify in such shape a subject that is at present exciting more attention than any other in medical literature, and for a knowledge of which it has hitherto been necessary to consult several books, and to read some hundreds of pages of wordy descriptions.

The work of preparation, in which the author has had able help and advice, has occupied several years of hard, unremitting labor, which we know all those who examine or use this book will thoroughly appreciate.

THE INTERNATIONAL MEDICAL ANNUAL, AND PRACTITIONER'S INDEX, for 1890. Edited by P. W. Williams, M. D., assisted by a corps of thirty-six collaborators—European and American. Cloth, 8vo.; pp. 600. Illustrated. Price, $2.75. Published by E. B. Treat, New York.

This is the eighth yearly issue of this handy reference manual. In its "Dictionary of New Treatment," it richly deserves and perpetuates the well-earned reputation of its predecessors. The corps of department editors has been largely increased, and important papers upon "Thermo-Therapeutics," "Electro-Therapeutics," "Sanitary Science in City and Country," and the "Medical Examiner in Life Insurance," are features of especial interest. It is a resumé of the year's progress in medicine, keeping the busy practitioner abreast of the times with reference to the medical literature of the world.

THE PULSE. By W. H. Broadbent, M. D. Cloth, 12 mo., pp. 312. Price $2.00. Published by Lea Brothers & Co., Philadelphia.

This is one of Lea's Manuals for Practitioners and Students of Medicine, and is for the most part a reproduction of the Croonian Lectures on the Pulse, delivered before the College of Physicians in 1887, to which has been added a chapter on "Sounds of the Heart."

The aid furnished in this little volume towards an appreciation of the variations of the pulse in the course of acute disease, consists in directing separate attention to the size of the artery, and the character and duration of the individual beats and intervals, by which experience and observation will be guided and rendered fruitful.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Volume 5, No. 3, March, 1890. Paper, 8 vo.; pp. 318. Price, $1.00. Published by Wm. Wood & Co., New York.

The table of contents is as follows: "Treatment of Cancer by Electricity," by Dr. Inglis Parsons, 16 pages; "The Dreadful Revival of Leprosy," by Sir Morell Mackenzie, M. D., 28 pages; "Diseases of Old Age," by Dr. A. Seidel, 26 pages; "Urinary Neuroses of Childhood," by Dr. Louis J. Guinon, 53 pages; "Varicose Veins of the Lower Extremities," Wm. H. Bennett, F. R. C. S., 45 pages; "The Uses of Electrolysis in Surgery," by W. E. Steavenson, M. D., 96 pages. As this completes the volume, there are added also an index and title page.

FOOD IN HEALTH AND DISEASE. By I. Burney Yeo, M. D., F. R. C. P. Cloth, 12 mo.; pp. 553. Price, $2.00. Published by Lea Brothers & Co., Philadelphia.

This is a work of practical utility, representive of the modern aspects of the subject of which it treats, and is at the same time concise. The first part enters fully and in detail into the important subject of Army, Prison and School Dietaries, and Feeding during the critical period of Infancy and Childhood. The second portion to some extent is founded on a course of lectures entitled "The Therapeutics of Food," delivered by the author in King's College Hospital.

THE ESSENTIALS OF EXAMINATION OF URINE, CLINICAL AND Microscopical, etc. By Lawrence Wolff, M. D. Cloth 12 mo.; pp. 66. Price, 75 cents. Published by W. B. Saunders, Philadelphia.

This is one of Saunder's series of "Question Compends," very neatly gotten up, and apparently intended as a suppliment to Wolff's "Essentials of Medical Chemistry."

PUERPERAL FEVER, OR TOXEMIC PUERPERAL DISEASE. By T. Griswold Comstock, A. M., Ph. D., M. D. Paper, 12 mo., pp. 23. Reprint from The Medical Era.

This embodies a most interesting and profitable address made before the Southern Homœopathic Medical Association.

ACUTE COLDS: Why and How They Should be Treated. By Chas. H. Stowell, M. D. Paper, 12 mo.: pp. 9. Published by D. Appleton & Co., New York.

A very interesting paper, reprinted from the New York Medical Journal.

ESSENTIALS OF DISEASES OF THE SKIN. By Henry W. Stelwagon, M. D. Cloth 12mo. pp. 270. Price $1.00. Published by W. B. Saunders, Philadelphia.

This is number eleven of the "Question Compend Series."

Notes and News.

Commencement of the Detroit Medical Colleges.—On the afternoons of the 14th and 20th ultimo were held, respectively, at the Detroit Opera House, the Commencements of the Michigan College of Medicine, and the Detroit College of Medicine, the former graduating eighteen, and the latter thirty-six.

Dr. Hal. C. Wyman, Prof. of Surgery, presided over the exercises of the Michigan College of Medicine, Prof. Henry A. Chaney and Dr. J. J. Mulheron delivering addresses. In the evening a banquet was given at the Wayne Hotel, one hundred and twenty-five guests participating.

The addresses at the Commencement exercises of the Detroit Medical College were given by Rev. Dr. Blanchard and Prof. J. E. Clarke, Mr. Sidney Miller presiding. In the evening a conversazione was given at the new college building, which was illuminated throughout with electric lights. Addresses were also given by Drs. Hugh McColl, of Lapeer; A. B. Owen, Detroit; S. J. Groner, of Grand Rapids; and Alfred, of Battle Creek; also by Messrs. M. L. Wilson, of the class of '91, and F. Eastman of '92, The prize medalists of the graduating class were W. L. Wilson and Charles A. McCollum.

The Alumni Association of the Detroit Medical College met Thursday, March 20th, seventy-five members being present. Dr. C. T. Southworth, of Monroe, presided. Dr. Walter J. Cole read the reports of the Secretary and Treasurer. The following officers were elected for the ensuing year: Dr. E. C. Skinner, President; Dr. Geo. E. Clarke, Secretary; Dr. F. W. Robbins, Historian; also Vice-Presidents, one from each class.

Medical Progress.

Treatment of Hæmorrhoids by Actual Cautery.—Dr. Trzebicky communicates to the Przeglad Lekarski, some statistics he has compiled with reference to the treatment of hæmorrhoids by means of Langenbeck's cauterizing operation. Of 120 patients on whom this was performed, 113 were men and 7 women; nearly all were between the ages of thirty and fifty, and none were below twenty. The complications consisted of one case of slight hæmorrhage, and one of pyrexia lasting eighteen days; one patient died the day following the operation from paralysis of the heart. In all the other cases the recovery was perfectly normal and uninterrupted. In two cases there was a return of the hæmorrhoids after the lapse of three or four years. One patient developed a tuberculous fistula after twelve months, and one died in six months from disease of the stomach. Regarding sixteen no information could be obtained, but 100 were

found to be in good health a considerable period after the operation. Inquiries directed to the ætiology of the affection, elicited that of th e whole number only twenty-one patients had followed a more or less sedentary occupation, the rest being engaged in active pursuits; therefore Dr. Trzebicky is not disposed to attribute the same degree of importance to sitting as a cause of hæmorrhoids as is usual in lectures and text-books.

Oubain and Strophanthine as Local Anæsthetics.—In the transactions of the *Société de Biologie* (Fortschritte der Medicin, February 1, 1890), Dr. E. Gley describes the anæsthetic effects produced by oubain and strophanthine (Arnaud's) when three or four drops of a 1 to 1,000 solution are applied to the conjunctiva. The experiments were made upon rabbits, and the anæsthesia was complete in from five to ten minutes, the effects lasting two or three hours. Some myosis is caused by the drugs, this condition appearing later and disappearing earlier than the anæsthesia. No disagreeable symptoms accompany their action, particularly no inflammatory irritation. Oubain is a crystalline glucoside procured by Arnaud from the wood of an African tree (an *Apocynum*) which serves the Somalis for the preparation of arrow-poison. It is similar in its effects upon the heart to strophanthine, but three or four times as poisonous. As regards strophanthine, Steinach has shown (Wiener med. Wochenschrift, 1888) that Merck's preparation has no local anæsthetic action, but that Arnaud's has this effect, proving, therefore, that there are two different alkaloids bearing the same name.

THE TREATMENT OF DYSENTERY.—Many of the medicines most highly prized to-day, such as cinchona, coca, jaborandi, ipecacuanha, araroba, etc., were at one time empirical remedies employed by uncivilized peoples. There are doubtless still, among the remedies employed by the natives of Africa, many powerful drugs, that may hereafter prove of value to the human race when their properties have been investigated in a thoroughly scientific manner by eminent therapeutists, physiologists, and chemists. Being situated in a country* whose *Materia Medica* is almost unknown to Europeans, and having excellent opportunities of obtaining the plants in general use here as medicines, I have commenced a series of experiments with the more promising of the native remedies that have come under my notice, and hope to communicate from time to time the results, whenever I obtain evidence that any of these remedies are deserving of more scientific investigation than is possible with the means at my command in this colony.

The drug to which on the present occasion I desire to direct the attention of the medical profession, is one which is hitherto entirely unknown out of Africa as possessing medicinal properties, and belongs to a family of plants concerning the medicinal qualities of which but little has hitherto been recorded.

Botanical Characters.—As generally met with on the West Coast of Africa, the plant is a straggling tree, from seven to fifteen feet in height, bare below, but leafy at the summit of the trunk and branches. Under favorable circumstances it grows to the height of seventy feet. The natives employ it in making fences around their compounds, and especially around their fetich grounds; the only reason for this selection that I have been able to discover being the hardiness of the plant, which readily grows when so employed. The plant belongs to the natural order, Bignoniaceæ, an order which has not as yet received the attention which it deserves from pharmacologists. In the "National Dispensatory" of Stillé and Maisch, and in Johnson's "Medical Botany of North America," the medicinal properties of *Bignonia Catalpa* and *B. capreolata* are briefly referred to; and in the Pharmaceutical Journal, September 1, 1888, p. 162, reference is made to the therapeutical uses of *Tabebuia longipes*, or white cedar of British Guiana, a plant of the same natural order. Moloney refers to a species of Newbouldia called *Kindee* or *Brochee* in Sierra Leone, used by the natives of that place in fevers; to *Spathodea campanulata*, used in the treatment of ulcers in Gaboon; and to *Kigelia pinnata*, used by the natives of the Gold Coast in rheumatism and dysentery.

My first experience of the drug was while a youngster at Sierra Leone, where it was first administered to me for the acute malarial splenitis so common among children in that unhealthy peninsula. A decoction of the bark of the trunk and roots was given internally, and over the enlarged and painful spleen a poultice consisting of the bruised leaves, with native spice (*Habzelia Æthiopica*), was put on quite hot. The relief was always certain. In 1879 and 1880, when in practice at Sierra Leone, I used the drug with success in all acute malarial enlargements of the spleen. It was about this time I obtained my knowledge of the influence of the drug on the uterus. I found out accidentally that the decoction was largely used in the treatment of the puerperal state by the Susus and Timanis (native tribes around Sierra Leone), among whom it was the sovereign remedy in *post-partum* hæmorrhage. Unfortunately, it was often combined with the native spice already referred to, so that although good results were obtained in many cases, it occasionally failed in others This I soon discovered was due to the effect of the spice.

The contractile power upon the spleen and uterus displayed by the drug, led me, while in the Quittah district in 1881 and 1882, to its trial in the treatment of dysentery due to an atonic condition of the large intestines, and my results were so satisfactory that I was led to employ it in all cases of dysentery that came under my care in my dispensary practice in that district. My subsequent experience, in the wards of the General Hospitals at Accra and Lagos, of the utility of the drug in all cases of dysentery, induced me to forward specimens of it to Professor Sydey Ringer, of University College Hospital, London, in 1883, with a view to its further investigation. These were handed by him to his colleague, Mr. Gerrard, for chemical examination, but as he found no alkaloid, he was discouraged, and did not continue his researches. I have since used the

* African Gold Coast.

drug in my private and public practice, and it has been employed also by some of my colleagues in the treatment of dysentery, as met with on this coast, with complete success.

In short, in all conditions indicative of atony of the involuntary muscular fibre, newbouldia is useful.* In all passive hæmorrhages it appears to be useful when given in full doses. It seems to act, in moderate doses, upon the involuntary muscular fibres generally as a tonic and alterative, and in large doses as a direct stimulant. What the precise nature of its action in dysentery is, I cannot say. Certainly it is not simply as an astringent. Possibly it is by modifying the circulation in the intestines by its action on the muscular coat of the arteries, and of the intestines, and probably of the spleen also, thus producing tonic and alterative effects upon the diseased mucous membrane. And here I would draw attention to the following pregnant remarks of Sir Thomas Watson: "The very frequent coincidence or alteration—in some places—of dysentery with intermittent fever, has given to rise to the opinion that both these diseases are alike attributable to the malarious poison. But dysentery prevails where there is no other evidence of the presence of malaria. You may recollect, that when we were upon the subject of ague, I showed you that its repeated paroxysms were attended with extreme and increasing congestion of blood in the internal organs, of which congestion, the tumid spleen, the so called "ague-cake," was an effect and a token. Now whatever gorges the splenic vein, gorges its tributary, the inferior mesenteric, which carries the blood from the rectum and the descending colon. Upon such congestion of the mucous membrane, inflammation is readily engrafted, and in this indirect way dysentery may be said to result from the marsh effluvia. Ague is an effect of malaria; and dysentery is sometimes a sequela of ague. In precisely the same manner dysentery is apt to supervene—in hot climates especially—upon hepatic congestion and disease."—["Practice of Medicine," fourth edit., vol. ii, pp. 541, 542.]

Preparations.—The preparations used by me have been (*a*) *decoction* of the fresh bark of the trunk and roots; (*b*) *fluid extract*, prepared by maceration and percolation, of the strength of one of bark to five of rectified spirit. Dose of the *decoction*, one to two ounces: and of the *fluid extract*, fifteen to sixty minims. In the first stage of dysentery the treatment is preceded by a full dose of castor oil in ordinary cases, or a saline purgative when there is more blood than mucous in the stool. As soon thereafter as the bowels have acted twice or thrice, give full doses of the drug, and repeat these until the bowels are constipated; the administration is then continued at less frequent intervals until there have been no stools for at least twenty-four hours. Then, according to the circumstances, the drug is either continued in smaller doses for a few days, or discontinued altogether. A final aperient may be necessary to complete the cure.

Occasionally newbouldia, especially when given in full doses, produces griping; this I overcome by giving it with the tinct. chlorof. co., and occasionally with some preparation of morphia (which I prefer to opium in cases of dysentery).

It is hardly necessary to add that in all cases of dysentery, no matter what the nature of the medicinal agents employed, dietetic treatment is essential in the successful management of cases.

In administering to females, it should be borne in mind that this drug stimulates the uterus, and may therefore, as I have known it to do, cause a premature appearance of the menses, or produce abortion.

I trust that the above remarks will be sufficient to indicate, to a certain extent, the line of usefulness which may be followed out in further experiments in the Continents of Europe or America with this interesting drug.—J. Farrell Easmon, M. D., in *Provincial Medical Journal.*

* I hope to publish in due course of time, my observations, from clinical experience, on the pathogeny of dysentery on this coast.

On Acute Follicular Tonsillitis.—Though follicular tonsillitis is well known as a throat affection, yet the history and characteristics of an acute form of the disease have not been quite clearly pointed out, and in consequence it does not seem to be accorded its proper place in our nosology. Notwithstanding, the disease is an interesting one, both on account of its frequent prevalence as an epidemic, and of its apparent relationship to diphtheria. In typical cases, the attack is ushered in by *malaise* and rigors, accompanied with, or what is more usual, followed by, sore-throat, which generally sets in about twenty-four hours after the beginning of the illness. If the throat is examined soon after soreness has been first felt, the tonsils are found to be reddened and somewhat swollen; they may be still free from any excessive secretion, or on one or both of them, two or three rounded, yellowish-white spots may be seen—the orifices of follicles filled with a material closely resembling cream cheese in color and consistence. Probably a swollen gland is observed under the angle of the jaw on one, or perhaps on both sides; the tongue is generally furred, the appetite is not good, and there is general *malaise*. In slight cases there is little or no fever, but sometimes the temperature rises to 102°. On the third day, in many cases, the symptoms are on the decline, while in others which are more marked, both tonsils are now showing yellowish-white spots, and perhaps some of the secretion has escaped from the follicles and spread itself over the tonsil. There may be increased swelling of the glands below the angle of the jaw—only one gland on each, however, being in general affected. With the subsidence of the disease on the third or fourth day, the temperature falls to normal, and the secretion on the tonsils disappears more or less abruptly. Some swelling and redness is still left, but this gradually fades away, and the throat has recovered its normal appearance before the end of the week. In many cases there is stuffiness in the nose, with a little discharge, which is often sanious, and sometimes there is some amount of bleeding. This sketch is an endeavor to depict an ordinary case, but it is to be remembered that there are some which present few constitutional features, while on the other hand there are others which are unusually severe and prolonged. I have seen the temper-

ature rise to 104°, and occasionally there is marked fetor of the breath with considerable swelling of the glands. Some years ago I saw a case in which the throat affection was severe, with great glandular enlargement, and where, soon after convalescence had set in, acute nephritis occurred. There was a question here of the case being one of scarlet fever in which the eruption had been overlooked; but follicular tonsilitis was present at the time, and several other members of the family were suffering from the disease, and also the patient had suffered from a slight attack of scarlatina the previous year.

When a case of follicular tonsilitis is seen where one or both tonsils are covered, or partly covered, with secretion, the resemblance it bears to one of true diphtheria is often very striking. Sometimes the matter acquires an ashy grey tint, which makes it look very like diphtheritic exudation. It will be found, however, that the friable material, so different from tough membrane, can be easily scraped away.

Acute follicular tonsillitis very frequently, (in fact, according to my experience, generally), appears in an epidemic form—that is to say, it is found from time to time occurring in a number of houses scattered over a certain area, and in those houses several members of the same family are usually affected. Sometimes isolated house epidemics are observed, but more commonly the disease appears to take the ordinary epidemic form. It is therefore highly probable that it is infectious; but I have not yet been able to decide whether its prevalence during an epidemic was due to spread by contagion, or whether it was the result of some general cause acting upon the health of the inhabitants of the locality in which it occurred. Its spread has sometimes been apparently favored by bad sanitary conditions. In one or two houses where, during an epidemic, a large proportion of the inhabitants were affected, I have found defective drainage arrangements which allowed sewer gas to find its way into one or more of the rooms. In other instances, however, no such apparent cause could be detected. Though the disease is clearly distinct from diphtheria, in so far as regards the exudation at least, yet it seems to be closely allied to it. At the end of last year, during an epidemic of acute follicular tonsillitis, there was a considerable number of cases of diphtheria, a disease remarkably rare in Jersey; and, moreover, the cases of diphtheria, so far as I know, were chiefly in a quarter of the town of St. Helier's where follicular tonsillitis was most prevalent. In one family in this part of the town, I attended two children suffering from diphtheria, and before they had recovered, their aunt, living in the same house, had a well-marked attack of follicular tonsillitis. In epidemics of diphtheria simple tonsillitis has been noticed to be associated with, and apparently merging into, membranous inflammation; and Mr. Hood, in an excellent paper, also mentions the fact of "tonsillitis of follicular character being found in several instances in which the cause was undoubtedly diphtheria." Moreover, he tells us that "one of the nurses of the West London Hospital had a mild attack of so-called follicular tonsillitis; the throat mischief speedily improved, but a few days later symptoms of paralysis appeared and disclosed the initial attack to have been diphtheria." This case, if it does not prove the initial attack was diphtheria, at least shows that follicular tonsillitis is very closely allied to it.

I have now seen a good many epidemics of acute follicular tonsillitis, in all of which the disease presented much the same symptoms and characteristics, and followed the same course. It is therefore a question whether it does not merit recognition as a distinct form of specific disease. It appears probable, however, that it is nearly related to diphtheria, much as if it were another species of the same genus.—Dr. Andrew Dunlop in London *Lancet*.

[We think Dr. Dunlop is in error as regards a portion at least, of his premises. We have long been accustomed to treat, and to regard, follicular tonsilitis as a *symptom*, rather than as a malady *per se*. If space permitted, the truth of this proposition might be definitely demonstrated, for we have repeatedly observed follicular tonsilitis as a manifestation, or variation, of some form of septic poisoning, even from autoinfection in masked diphtheria, scarlatina, measles, etc.; in nascent typhoid, typhoid pneumonia, intermittents, remittents, etc. Further it is not epidemic, but *endemic*. Where it appears as a disease *per se*, it will usually be found to arise from some specific defect in the sanitary surroundings. In this State, it is especially prevalent in the spring, in houses built upon newly cleared land, that do not permit of ready drainage or evaporation of the moisture beneath the floors or in the grounds contiguous. As regards paralysis being evidence of its diphtheritic character, we must decidedly dissent; the paralysis is invariably of the same class and character as those that develop from malaria—intermittent and remittent fevers; and here paralysis is only an exaggerated vicarious sensation, of mixed character and origin—see paper by Dr. Stockwell on "Malarial Paralysis" in Phil'a Med. and Surg. Reporter, Mar. 17th, 1888.—Ed.]

Danger of Flushing the Peritoneum with Sublimate.—Of all recent innovations in abdominal surgery, flushing or irrigation of the peritoneum is undoubtedly the most popular in the best sense of the word. Operations for the removal of diseased uterine appendages, electrolysis for fibroids, and complicated manœuvres in the region of the gall bladder, duodenum, stomach, or kidney, are seldom taken in hand except by experts. Every surgeon, however, may be called upon to open the peritoneal cavity, and one of the best safeguards against the dangers of intraperitoneal operations is, flushing of the peritoneum, judiciously performed. The success of this practice has urged many surgeons to seek yet higher success by various modifications.

Mr. Lawson Tait uses fresh water, and others can claim high success where the peritoneum is flushed by the same unsophisticated fluid.

But the antiseptic school of operators have largely added antiseptics to this practice. Of necessity, they had to take a great physiological problem into consideration, viz: How much of the antiseptic must be mixed with the water poured into the peritoneum so as to ensure asepsis without poisoning the patient?

The respective merits of the antiseptic and the opposite school, are not to the purpose in the present argument. Surgeons of the former class believe that an antiseptic agent should be mixed with the water, so they are right to estimate the virtues and dangers of that agent. Dr. Gellé has shown* that sublimate is a perilous compound for flushing. He describes three cases of ovariotomy where a 1 in 10,000 solution of perchloride of mercury was employed. In the first case, violent abdominal pain and vomiting took place during the night after operation. On the next morning a scarlatiniform rash appeared on the face, trunk and arms. No rise of temperature or salivation occurred. By the third day all bad symptoms disappeared. The second patient died from exhaustion through diarrhœa, fifty-two hours after an operation, where the walls of a dermoid cyst were sewn to the edges of the abdominal wound; interstitial nephritis was discovered. In the third case, par ovarian cysts were removed, and obstinate vomiting lasted for two days. How far the sublimate was to blame, especially in the second case, which was incomplete, it would be hard to determine. Dr. Delbet's important researches must not be overlooked. He has shown that a large amount of the water first poured into the peritoneum is actually absorbed, especially if it contains a little table-salt. In fact, the process is a true transfusion, more likely to act as such on the circulation than Dr. Münchmeyer's practice of injecting water into the subcutaneous cellular tissue as a substitute for transfusion of blood in hæmorrhage after labor. Transfusion, however, is not what is wanted in flushing the peritoneum. What is especially to the point is another fact discussed by Delbet: After a certain amount of water has been poured into the peritoneum, no more can be absorbed; then strong antiseptic solutions can be added without fear of absorption, provided that they be displaced by a final injection of pure water. This process might have prevented the serious results in Gellé's cases. Unfortunately, though a very pretty physiological experiment, Dr. Delbet's method is complicated. The second flushing with an antiseptic solution, followed by a third with pure water, is hardly in accord with the principles of the strict antiseptic school, for, according to them, the third would undo all the good done by the second. Carbolic acid is almost as likely to irritate as sublimate, if injected in a sufficient amount to counteract sepsis. No wonder, therefore, that the majority of surgeons prefer, we believe, sterilization of the water by prolonged boiling.

Flushing of the peritoneum has, in short, been widely adopted in abdominal surgery with excellent results. Like all other surgical proceedings, it requires to be done carefully. It certainly displaces clots and noxious solid or fluid materials. It also checks, if it does not actually stop, hæmorrhage. It counteracts shock due to chilling of the viscera, whatever M. Pollaillon's experience may show to the contrary. Lastly, the transfusion of water into the blood, though not aimed at by the surgeon, is no doubt beneficial. Judging from the experience of "non-antiseptic" surgeons, pure water answers all purposes with safety. The question was the subject of instructive correspondence in the Journal last autumn. If, however, it should some day be shown that some antiseptic should be added, that agent will not be sublimate.—*British Med. Jour.*

* Annali di Ostetricia e Ginecologia, Florence, 1889.

Chronic Indolent Ulcers.*—The subject that I wish to bring to notice for your consideration is, the treatment of chronic indolent ulcers. Realizing that with many physicians these are hard to cure, I venture to present to you a treatment that has in my hands proved very successful.

I will not take up your time with a technical description of these ulcers, for you have all seen them. They are characterized by slowness of progress, and are generally found in persons with a debilitated constitution. The limb is usually swollen, and the circulation in the œdematous tissues feeble; the surface of the sore is smooth and glassy, more or less irregular, and generally presents a few weak ill-conditioned granulations; the edges are raised, often undermined, and the limb emits a very disagreeable odor, especially in hot weather. Oftentimes the healing process remains stationary, or without any apparent reason sloughing occurs and ulceration spreads rapidly.

These ulcers are generally the result of injury and debilitating influences, such as exposure, drink, disease, lack of cleanliness, etc. In my opinion, a great many physicians fail in the cure of these ulcers by using applications that are too irritating, and by not enjoining cleanliness and attention to the details of the treatment.

The treatment that I have employed with much success is as follows: I commence by the administration of an alterative tonic mixture, which I consider of much importance, such as the following:

℞ Potass. iodidi, ʒ iij.
Liq. potass arsenit, ʒ j.
Syr. sarsaparillæ co., ℥ iv.
Aquæ, q. s. ad. ℥ viij.
M. Sig.—One teaspoonful after meals.

For external treatment I use:

℞ Iodoformi, ʒ j.
Ung. petrolii, ℥ j.
M. Sig.—Use in a thin layer every night.

For a bandage, I apply light weight woolen flannel, and much prefer it in one strip, and of good length. I employ two bandages, and render them antiseptic before using, and while one is in use, I have the other washed, dried, ironed, and disinfected, before the second application. The best means of doing this is to order a mixture, such as the following:

* Read before the Stafford County Medical Society, Dover, N. H., December, 18th. 1889.

℞ Hydrarg. chlor. corros., ʒ ij.
Alcohol, ℥ ij.

A teaspoonful of this mixture to a quart of water makes a 1:2000 solution, in which the bandages are to be disinfected. I use tar soap to cleanse the parts, dress the sore every night, and occasionally stimulate the surfaces with a pencil of nitrate of silver. I apply the bandage in the manner recommended by the text-books, commencing just back of the toes and bandaging quite tightly up to and above the ulcer. This is the treatment I have employed in these cases with remarkable success. I claim nothing particularly original or new for it, but if any of you have an old ulcer that is giving some trouble, you will be both pleased and surprised by following this method of treatment.—G. D. Emerson, M. D., in the "*International Journal of Surgery.*

Apples as Medicine.—Chemically, the apple is composed of vegetable fibre, albumen, sugar, gum, chlorophyl, malic acid, gallic acid, lime, and much water. Furthermore, the German analysts say that the apple contains a larger percentage of phosphorus than any other fruit or vegetable. This phosphorus is admirably adapted for renewing the essential nervous matter (lethicin) of the brain and spinal cord. It is, perhaps, for the same reason, rudely understood, that old Scandinavian traditions represent the apple as the food of the gods, who, when they felt themselves to be growing feeble and infirm, resorted to the fruit for renewing their powers of mind and body. Also, the acids of the apple are of signal use for men of sedentary habits, whose livers are sluggish in action, serving to eliminate from the body noxious matters which, if retained, would make the brain heavy and dull, or bring about jaundice or skin eruptions and other allied troubles.

Some such an experience must have led to our custom of taking apple sauce with roast pork, rich goose, and like dishes. The malic acid of ripe apples, either raw or cooked, will neutralize any excess of chalky matter engendered by eating too much meat. It is also the fact, that such fresh fruits as the apple, the pear, and the plum, when taken ripe and without sugar, diminish acidity in the stomach rather than provoke it. Their vegetable salts and juices are converted into alkaline carbonates, which tend to counteract acidity.

A good, ripe, raw apple is one of the easiest of vegetable substances for the stomach to deal with, the whole process of its digestion being completed in 85 minutes. Gefrard found that the "Pulpe of roasted apples mixed in a wine-quart of faire water, and laboured together until it comes to be as apples and ale—which we call lambeswool—never faileth in certain diseases of the raines, which myself hath often proved, and gained thereby both crownes and credit. The paring of an apple, cut somewhat thick and the inside whereof is laid to hot, burning, or running eyes at night, when the party goes to bed, and is tied or bound to the same, doth help the trouble very speedily, and contrary to expectation — an excellent secret."

A poultice made of rotten apples is of very common use in Lincolnshire for the cure of weak or rheumatic eyes. Likewise in the Hôtel des Invalides, at Paris, an apple poultice is used commonly for inflamed eyes, the apple being roasted and its pulp applied over the eyes without any intervening substance. Long ago it was said: "Apples do easily and speedily pass through the belly, therefore they do mollify the belly;" and for the same reason a modern maxim teaches that: "To eat an apple going to bed, the doctor then will beg his bread."—*Druggists' Circular.*

Diet in Diabetes.—This subject, though rather hackneyed, is still of much interest, on account of the great difficulty in prescribing a suitable diet to which the patient will adhere. In "Diabetes," of the Physician's Leisure Library Series,* Dr. A. H. Smith gives some lucid instructions with regard to this troublesome matter. We condense from these:

All forms of meat, except liver, may be allowed; but sauces containing sugar or flour must not be served with them. Fish of all kinds may be given with the same restrictions. Eggs in any form are to be employed. The green vegetables, so-called, contain so little starch and sugar, that their use may be allowed. Celery, cabbage, Brussels sprouts, cauliflower, string beans, asparagus, lettuce, spinach, mushrooms, radishes, cucumbers, endives, young onions, water-cresses, turnip tops, beet tops, etc. Acid fruits, such as tart apples, cranberries, lemons, strawberries, gooseberries, plums, and cherries are permissible. They may be stewed with saccharin instead of sugar.

The greatest trouble is experienced over bread. It seems almost impossible for one to exist with any degree of comfort without bread, and yet the difficulties in the way of making a bread that does not contain a dangerous amount of starch are almost insurmountable. Almonds have been used for the purpose; but they are both too rich and too expensive for most patients. The embryo of wheat can also be made use of; but here again the matter of cost prevents. Dr. Smith says that a tolerably fair substitute for ordinary bread may be made by adding to the gluten, from which the starch has been removed, wheaten bran deprived of its outer silicious covering. However, it is only in severe cases that very stringent measures have to be employed with regard to the exclusion of the carbo-hydrates from the food.

In mild cases, ordinary bread may be given, deprived only of a portion of its starch, and in still milder cases rye bread will be found of good service. But, since the disease is peculiarly an exhausting one, and it is therefore important to keep the digestive apparatus in as good condition as possible, the author insists that in any case, no matter how satisfactory may be the urinary examinations, if the patient's nutrition and strength are becoming impaired, he must be allowed more liberal diet. Progressive weakening of the patient's assimilative power, with increased nervous irritability and a lowering of his general *morale*, are by no means compensated for by reducing his output of sugar by one or two grains more a day.—"*Times and Register*," Mar. 8th, 1890.

* Published by Geo. S. Davis, Detroit.

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Original Articles.

ON THE TREATMENT OF CHLOROSIS.

BY PROFESSOR MICHEL PETER.*

In No. 27 of our female ward we have a girl aged 18 years, pale with bloated features, and more or less of puffiness over the whole body; the fingers club-shaped, swollen, and her legs swollen at night. One would be inclined, at first sight, to believe she has some heart affection, a mistake the more excusable from the fact that at the base of the heart an intense *bruit de souffle* is heard; there is, however, no organic disease there, for the girl is simply chlorotic.

I have been accustomed to say that chlorotic girls are only *half made*. This expression states the reality of the case, for chlorotics are badly constituted, and exhibit a state the Greeks called very justly *cachexia*, *i. e.* a faulty disposition of the entire organism.

This patient menstruated three years ago for the first time. Since then the menses have never been regular,—sometimes suspended for two months, for three months; her last period, in fact, was three months since. These troubles of menstruation are characteristic of chlorosis.

The spirit of analysis dominates to-day in medicine as in philosophy, and by rigid adhesion to the analytical method great progress has been made, but if we carry this into pathology, we are likely to make mistakes by overlooking the solidarity of the organism, by having the attention diverted from this living synthesis, and by considering only the separate parts; an error to which specialists are inclined. Thus, in chlorosis, analytic medicine sees only a disease of the blood, or rather of the blood corpuscles, or of the hæmatoblasts. Analytically, chlorosis has been regarded as meaning less than the normal amount of iron in the blood-globules, which is far from being the whole truth. The chlorotic suffers in her *entire being*. Demand, for instance, of our patient if she has any appetite, and she will reply at first evasively, then little by little will confess she is fond of crude, indigestible things,—of pickles, of vinegar, etc.,—and that she has an utter dislike to meat. The stomach then is disturbed in its functions, as well as the other organs.

We are then far from proving that chlorosis is due to want of iron. Doubtless we do well to give iron in chlorosis, but this is not enough, since there is a deranged stomach to be righted, a deranged nervous system to be restored, and in fact not an organ or function that is not below par. This leads me to speak of the treatment.

A short time since we had in No. 8 a young chlorotic girl who left our wards almost well,—I say *almost* well, for the final traces of chlorosis never disappear. At the time of her departure, she had a very rosy complexion, walked without much fatigue or panting for breath, and without palpitations. But we were not content with simply giving her iron; we treated the stomach, excited the cutaneous functions, and attended to the other dilapidated organs.

Regarding the administration of iron: In general, physicians give too much. The organism, in fact, contains in all only a few grammes of this metal, and this has by no means completely disappeared in chlorosis. It is a useless custom to give large doses, as by so doing, at the end of a month will have been given four times as much as the organism in the normal state contains. Moreover, such doses are likely to cause cramps of the stomach, and then be no longer tolerated.

What preparation is preferable, and in what doses?

Of all the ferruginous preparations, the best is, in my mind, iron filings, or, what amounts to the same thing, the reduced iron of Quevenne, sometimes termed "iron by hydrogen." Of this, one or two grains may be given just before meals. If iron in this form is badly tolerated, we may have recourse to the chalybeate mineral waters; only, it will be necessary to continue the treatment longer.

If, perchance, we have to do with a stomach so susceptible that iron causes hyperæmia of this organ, gastritis, or an intolerance accompanied with more or less pain, revulsives (epispastics, blisters) must be applied to the epigastric region.

Frequently we see chlorotic patients who devour with avidity all sorts of substances, such as chalk, dry tea, starch, even dirt. Others munch grains of burnt coffee, of raw rice, etc., and I have known some to swallow plaster. Here we have a sort of morbid instinct which may give a hint in practice, as the

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chlorotic craves powder of some kind to stimulate the secretion of the gastric glands. Guided by this indication, in order to combat the tympanitic distension which comes on after meals, we may advantageously administer before each meal the following, in wafer or capsule: Prepared chalk, powdered roast coffee, powdered rhubarb, each 3 grains; powdered iron (Quevenne's), one grain. If there is pain, one-sixth grain of opium may be added; and if there be much stomach distension, one-sixth grain of powdered nux vomica also.

Remembering that the chlorotic loves acids, we are careful not to forbid them; vinegar stimulates the secretion of gastric juice. Do not then prohibit salads, since chiccory, lettuce, etc., furnish vegetable juices adopted to the chlorotic stomach; add salt and pepper, which are also stimulants of the stomach. Neither is olive oil, where suitable as a dressing, to be forbidden. Cucumbers in moderate quantity are not objectionable, and go well with the meat which the patient may be persuaded to eat. In some cases the following may be substituted for vinegar: Acid hydrochloric officinalis, six minims; water, four ounces; syrup of lemon, five drachms; a tablespoonful to be taken after eating.

Neither is it advisable to limit the chlorotic to dark meats, but as far as possible permit them to obey instinctive cravings, and eat veal, chicken, and even bacon, if desired. So much for the stomach. These patients, as a rule too, are constipated—their intestines are sluggish; but be chary in the use of purgatives, giving only small doses, two or three times a week. One-third to one-half grain of podophyllin on going to bed, or a pill of the extract cascara sagrada, answers a good purpose, to which may be added a cold lavement in the morning.

It will not do to conclude, because we have given iron, that the uterus is going to functionate normally, and that the menses will be regular. Menstruation must be aided by prescribing a warm bath of 20 to 25 minutes' duration, two or three days before the time for the expected flow; and the patient should take, three times a day, a cup of saffron tea, made by infusing a pinch of saffron-tops in half a pint of boiling water; or, if preferred, give mugwort, which is an excellent emmenagogue, in the same way. Apiol is, perhaps, even better, if given in five-grain doses in capsules, after each meal.

Regarding baths, it does not follow that when administered to chlorotic girls they should always be warm, for, apart from the pre-menstrual period, tepid or even cold are better. We aim to restore the function of the skin, for the vaso-motors in patients of this class appear to be absolutely inert, and the relaxed capillaries let the serum transudate into other parts, which causes the puffiness that is so often observed. To tone up the skin, then, we must have recourse to hydrotherapy. Of course, cold baths where they can be borne, are better than tepid, but it must be remembered that these young girls make already too little heat, and if they begin with very cold water it may do harm. Begin, then, with lotions applied by means of a sponge wrung out of cold water, but not dripping; if the patient have a cough, be more careful still, employing warm water first, then tepid water, gradually cooling to the ice-cold point. Supposing that, despite all this care, the cold water be still badly tolerated, we may add a tenth part of vinegar or cologne. Then the lotion must be followed by energetic friction. By following these precepts, the tonicity of the vaso-motors speedily improves, and the œdema disappears.

Later on, we have recourse to douches, beginning with the tepid, gradually increasing the coldness. These douches should be very brief, twenty-five to thirty seconds at first, never more than forty; it is the jet-douche that should be employed.

Sea-bathing is also an excellent remedy. But the patient should stay but a very short time in the water, taking the waves only five or six times, unless she has learned to swim, in which case she will combine hydrotherapy with gymnastics, and so can stay longer in the water.

Gymnastic exercises, too, are indispensible. When patients are feeble, reduced to such an extremity of listlessness and supineness that the least effort is painful, use massage and make them swing light dumb-bells, or pull on the elastic bands with handles that constitute the so called "parlor gymnastics." Later, when it will do to remove from the confined air of these rooms, make them take out-door exercise. There is no better exercise than gardening, which gives fresh air and sunshine, and promotes appetite and digestion. If the patients can afford horse-back riding, this is also excellent, as it is a very complex kind of exercise, bringing into play the muscles of the trunk; moreover, it is an exercise that young girls enjoy. The muscles of the back and trunk contract in order to maintain the vertical position; the arms are exercised in holding-in and guiding the horse; the legs are employed in preserving equilibrium; the chest dilates under the influence of the air condensed by locomomotion; almost the entire muscular system, in fact, is brought into use. Add to this, that the movements of the horse may have a considerable influence on the uterus, and favor the reappearance of the menses. Rowing is another excellent exercise for feeble girls.

It will be observed that in the treatment of chlorosis we have something to do besides attending solely to the red corpuscles and the hæmatoblasts; that the therapeutics must be

as complex as the disease itself, and be directed by good common sense. I would not discourage the systematic use of the best iron preparations, but the auxiliary measures of treatment are no less indispensable.

THE MICROBE OF PNUEMONIA—ITS ROLE IN PATHOLOGY.

BY PROFESSOR S. JACCOUD.*

I will speak of a patient who has just left our wards, the history of whose case will give me the opportunity to set forth several very important points of pathology.

This patient was a man 34 years of age, a shoemaker, of good constitution; his antecedents were correct. He had never had intermittent fever, or rheumatism; was not addicted to alcoholic stimulants; has never had syphilis. While in perfect health, he was taken, on the morning of the 9th of February, with a pain at the inner angle of the eye, in the supra-orbital region, the corresponding part of the frontal sinuses, the cheeks and gums, all on the right side; the eye itself became red and lachrymose. The patient felt a keen sensation of heat in the right nasal fossa, from which flowed drop by drop a limpid aqueous liquid. This pain was extremely intense, and prolonged with the same characters for two and a half hours, when the liquid became opaque, viscous, and mucopurulent.

In the afternoon the patient had a feeling of stuffiness in the right nostril, and was obliged to use his handkerchief continually; there was no longer any sharp pain, but a dull aching. He had a good night's rest, and the next morning found himself in perfect health, when at the same hour—9 o'clock in the forenoon—he was taken with another attack precisely the same as on the day before, both as to characteristics and duration. The nasal flow underwent the same modifications, and in the evening he found himself, as the evening before, quite comfortable.

It was on account of this state of things—his morning attacks, with the afternoon subsidence, and no cessation for ten consecutive days—that he finally entered the hospital (February 19th, 1890).

What can we make out of this singular case? Here is a patient who undoubtedly had facial neuralgia associated with an irritation and hypersecretion of the right frontal sinus. Is it the inflammation of the frontal sinus that gave rise to the neuralgia; or, on the contrary, is it the facial neuralgia which preceded and provoked the inflammation of the frontal sinus? I am obliged to reply that the two are coincident, and no man can arbitrarily affirm which came first and gave rise to the other, or whether both were not due to a common cause.

When this man entered the hospital, he presented clear and unmistakable signs of inflammation of the right frontal sinus, and attention was called to the mathematical periodicity of the neuralgia—a periodicity pertaining to the day, the hour, and the minute. I gave him, in consequence, twenty grains of quinine daily, bearing in mind the hour when the attack came on. The quinine was given in two doses, the first in the evening, the second early in the morning (at 6 o'clock).

From the first day, the attacks were much less violent. He took the medicine on the 19th, the 20th, and the 21st; on the 22d he had no attack, and we noticed a marked diminution in the external signs of the inflammation of the frontal sinus, nevertheless the quinine was continued. The 23d, the patient was well, and discharged.

The history of this case is remarkable by the rapidity with which a cure was obtained, and this, both by reason of the choice of the medicament, on the one hand, and the mode of administration, on the other; but it presents another aspect of still higher interest. My laboratory chief, who saw the patient from the first, desired to ascertain the bacteriological composition of the liquid which issued from the inflamed nostril. He found there plenty of pneumococci, and to the last, these microbes were met with in this secretion. Then, in the fact of pathogenic microbes, the liquid which flowed from the inflamed frontal sinus was a pneumococcus liquid. This brings fresh to recollection the character of the liquid of the otitis so often observed in the late influenza epidemic. We might be tempted to class the two orders of facts together; but our patient did not have the influenza.

It behooves us, then, to look at another order of facts, which have been known only since the labors of Netter, and which may be epitomized as follows: When one has had pneumonia, he keeps pneumococci an indefinite time in his mouth. You know, in fact, that Netter has demonstrated that in individuals who have had pneumonia, pneumococci are always found in the salvia. But our patient has never had pneumonia.

This shows that the pneumococcus may be met with in health; there have been, in fact, plenty of instances of pneumococci found in individuals under such conditions. They therefore must be classed in the number of indifferent microbes existing in the healthy organism. When the pneumococcus becomes pathogenic, it is because of phenomena which act as auxiliary factors.

Now when the pneumococcus was first discovered, micro-biologists were inclined to regard it as noxious, and as always a stranger to the

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healthy organism. But observations have multiplied which show that these propositions are false, as it is not always noxious. This, moreover, is the lesson which we may learn from the case which we have just reviewed.

We may, then, take in the full truth of the ætiological teaching which I have so often endeavored to impress; the knowledge of the pneumococcus detracts nothing from the value of the causes formerly assigned to pneumonia. This extrinsic cause puts in play or in activity the pneumococcus which pre-exists in the healthy organism, and which, under this influence, invades the pulmonary parenchyma and produces the disturbances with which you are so familiar.

This is the way in which we are to understand the influence of these extrinsic causes on micro-biology. When we say to-day that a disease is microbic, we do not therefore conclude that all the other causes have not the potency that has been heretofore assigned to them. There is simply an association of microbic with non-microbic causes. These are conclusions of practical interest, as they have an important bearing on treatment.

We are obliged to-day to divide the microbic diseases into two classes.

1. Those for which actually we can assign no other cause than the introduction of the microbe into the organism, such as charbon, glanders, syphilis, tuberculosis.

2. Those whose microbe may form part of the healthy organism; it is not normally pathogenic, and in order that it may become so, something else is needed, and that something else is the ancient ætiology which some would rule out, but without which the disease in question could have had no existence.

INTESTINAL HÆMORRHAGE IN TYPHOID.

BY O. W. BRAYMER, A. M., M. D.

A glance at the pathological changes that occur, reveals the reason for a tendency to hæmorrhage in typhoid—a tendency that is always more or less aggravated by external causes, and that is to be anticipated in those suffering markedly from obstruction of the portal circulation, such as is present in cirrhosis and atrophy of the liver. Again, we must expect hæmorrhage in cases characterized by profuse diarrhœa.

Studying the morbid anatomy of the intestinal tract in patients suffering from the early stages of typhoid, we observe the solitary or agminated glands are hyperæmic. At about the close of the second or third week of a typical case, these glands begin to terminate their morbid condition by removal of dead tissue in the form of a slough or ulcer; and as the sloughs loosen and come away, they penetrate deep into the mucous membrane, ultimately removing the whole gland, sometimes also taking with them a part of the surrounding tissue, thereby laying bare portions of the intestinal muscular coat. Again, this necrotic process may go still deeper, involving not only the muscular coat, but penetrating the peritoneal covering. Such changes may take place in the stomach, the colon, or the lesser intestines, but are more frequently situated in the lower portion of the ileum contiguous to the ileo-cœcal valve, where the glands are of larger size and collected into patches.

The immediate causes of hæmorrhage are various, but are more commonly due to some unwonted exertion, to injudicious feeding or medication, or to the movements of entozoæ. Any of these, or a combination of two or more, may cause a slight bleeding from the capillaries, or profuse hæmorrhage from a larger vessel.

We may especially expect the severe hæmorrhages in those of predisposing diathesis; and the symptoms are of a character unmistakable. They are: Sudden fall of temperature, a pale countenance with livid lips, and feeling of faintness; dilated pupils, with impaired vision, and flashes before eyes that have a glassy look; respirations of a sighing character; ringing sounds in the ears; body and extremities cold and covered with clammy perspiration; an irregular pulse, with increased rapidity; and finally fainting, which may end in death, though syncope often proves Nature's hæmostatic. If the patient has been delirious, the senses are usually restored. All these may or may not be accompanied or followed by a discharge of blood per anum, which is usually fluid in character owing to its alkalinity as derived from the bowels, and of bright red color, though occasionally it is dark and clotted. In either event we are warned of the accident, and remedial measures must be speedy and prompt to be effective, for one large hæmorrhage may bring a fatal termination in a few minutes, or so deplete the patient that, while he lingers for a few hours, recovery is impossible. Again, death may result from exhaustion consequent upon a number of repeated smaller bleedings.

The indications are: To stop the flow of blood; overcome shock; and sustain the vital force.

To accomplish these ends, we must insist that the patient have absolute rest in a recumbent posture, in a properly ventilated apartment. If the bleeding is severe, the head should be lowered, the limbs slightly elevated, and ice applied to the abdomen. The treatment of a severe case which came under my care some months since, will perhaps afford an illustration:

The subject was past middle life, and for nearly three weeks had suffered from a violent

form of typhoid fever; had been very delirious from the onset, and one night jumped out of bed and staggered across the room before the attendant could arrest her. For some time there had been considerable abdominal tenderness, with severe diarrhœa. Upon my morning visit, a marked fall of temperature was observed, with a partial return of consciousness; also there was increased rapidity and great irregularity of the heart's action.

Hæmorrhage being suspected, stimulants with large doses of fluid ergot were ordered, which controlled the untoward symptoms until near evening, when I was again hastily summoned, to find the patient suffering from what to all appearances was an irremediable collapse. Temperature was 97° F.; pulse imperceptible at the wrist; limbs and surface of the body cold and covered with perspiration. There had been a large stool of bright red blood, which was soon followed by several more;—I should judge from twenty-five to thirty ounces were lost. Cold applications were made to the abdomen, and warm applications around the limbs, which latter were elevated and the head lowered. Large doses of ergot were given hypodermatically, together alcoholic stimulants.

When hope seemed lost and the patient appeared beyond help, I administered four minims of a one per cent. solution of nitro-glycerin. This was repeated in one hour, and (as I have noted in several other cases of a like nature), the remedy took almost magical effect, arresting the fast receding heart-power. In a few minutes the heart's action became a little stronger; with the second dose the radial pulse began to return; and the patient, after having almost succumbed, entered upon the road to recovery. To-day she is a strong, rugged, hearty person.

To me nitro-glycerin has been the best friend of all the Materia Medica in such cases of emergency. Its action is quick and powerful, and always gives good results. I invariably use it as a stimulant to the heart weakened by loss of blood from any cause. I do not use it hypodermatically, since placed upon the tongue its action is immediate.

The after-treatment followed in these classes of hæmorrhage is as follows: Keep the bowels from moving until pretty sure that all danger is past,—thus I have held them in check for twelve days, without any bad effect; one grain opium suppositories, night and morning for the first two or three days, then at night only, with me prove sufficient to arrest all peristaltic action. No laxative is needed, even though the opium is continued for some time; the bowels will move spontaneously if left to themselves.

I am accustomed also to give, every three or four hours, eight to twelve minims of oil of turpentine, either in capsules or in emulsion, along with the opium, and find in most cases that it acts kindly on the diseased and relaxed mucous membranes.

As to the internal use of astringents, which are often advocated in such a weakened and diseased condition of the alimentary canal, I am very doubtful if they ever reach the seat of hæmorrhage, and if they do, most of them, such as the per-sulphate of iron or gallic acid, are to my mind not adapted to such a condition, especially when milder medicaments are at hand.

For the first few days after the hæmorrhage is controlled, the patient should be kept under the physiological effects of ergot, employing either a good fluid extract or normal liquid by the mouth, or the latter or ergotin hypodermatically. Then, with absolute rest and stimulants, together with proper nourishment, we may expect successful results in even the worst cases.

In this matter of nourishment, however, it behooves one to be very careful; too much food in any condition is injurious, but here trebly so. Small quantities of milk or of good beef essence, at short intervals, should have the preference; but for the best results in each individual case, we must use those articles of diet which are found to be most easily assimilated by, and most nourishing to, the patient.

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CARCINOMA OF THE FEMALE BREAST.

BY WILLIAM MEACHER, M. D.

I do not propose to discuss the history or pathology of cancer. All I shall say is already well known, and my object in writing is to promote a general understanding (or, perhaps I should say, a general agreement) among the members of the profession as to what we should do with cancer of the female breast. It is so very common that it comes more or less under the observation of almost every practitioner, there being very few, if any, who are not called upon to give their opinion and advice.

It is impossible, in our present state of knowledge, to recognize cancer of the breast in its earliest stages; but it is of the utmost importance to recognize it as soon as possible, and it would be of vast benefit to every patient if her medical adviser were able to do this.

I wish to say a few words on the subject of diagnosis. Of course, all the text books on surgery give excellent instructions for differentiating cancer from the numerous other growths, or tumors, to which the female breast is subject. Erichsen says: "Between cancer and the ordinary solid tumors of the breast, more especially the adenoid and adeno-sarcomatous, the diagnosis is often extremely difficult; but

we may arrange the two chief signs of the two forms of disease in distinct groups, and by comparing them the differences may be more clearly seen:

SCIRRHUS TUMOR.	NON-MALIGNANT TUMOR.
PALPATION.	
Of stony hardness. Knobby and indistinctly circumscribed, and occupies about the whole of the substance of the gland.	Moderately hard. Irregular in shape. Occasionally more or less lobulated; distinctly circumscribed and sometimes elastic in parts.
MOBILITY.	
At first considerable, but soon lost from adhesion to the deeper structures.	Considerable.
SKIN.	
Early implicated; at first dimpled, then red or purple, and in other cases brawny, nodulated, and leather-like so that it does not admit of being pinched up into folds. Purple-red masses form on it.	Of natural color throughout, though thinned and expanded by the tumor lying close beneath it. Implicated only in the advanced stage of cystic sarcoma.
NIPPLE.	
Usually retracted.	Usually not retracted.
PAIN.	
Severe and lancinating, especially at night after handling, and when the skin is implicated; is not continuous.	Often little or none
AXILLARY GLANDS.	
Enlarged, indurated and fixed.	Seldom affected.
CONSTITUTION.	
A cachexy comes on as disease advances.	General health not affected.

Next he says: "In cases in which, after carefully applying the foregoing principles of diagnosis, the surgeon is still uncertain, he may feel tempted to wait until time clears up the doubt and makes the nature of the disease evident. But by so doing the only hope of materially prolonging the patient's life, should the disease be really malignant, is lost. At the present day, when our treatment of wounds is so far perfected that a simple incision may be regarded as free from danger and almost free from inconvenience, it is the surgeon's duty to cut into every doubtful tumor which may, by any possibility, be a cancer, and remove a piece for examination."

Wyeth goes so far as to say: "That any tumor occurring in the breast, after the age of thirty, should be immediately excised."

To conclude the subject of diagnosis, let us suppose a patient comes, with a "lump" in her breast the size of a small potato (I know this is rather indefinite, but I prefer it so); the skin over the "lump" inclined to be adherent. She appears well, and may be from forty to sixty years of age; says she first noticed the tumor some months ago. It is near the nipple, not very tender; there has been an occasional twinge of pain, with more or less of a burning sensation. If you feel carefully or thoroughly you find that the "lump" is movable only as you move the the whole gland; its edges are not very clearly defined, and it is more or less irregular in shape or form. You do not know, positively, what it is—no one can know, with certainty at this time—but, ten to one, it is a scirrhus growth. It may be thought best to wait a week or two to see if any changes take place, and to prepare the patient's mind for an operation; but let the time of waiting be as short as possible, and as soon as she is ready to undergo an operation, out with it. As I said before, no one can be absolutely certain of the nature of the growth at this early stage. It may be innocent or non-malignant; it is possible that it is something which does not need to be removed at all. Nevertheless, I say, out with it! Better,—a hundred times better,—to make the mistake of removing an innocent tumor for a cancer, than to make the most fatal mistake of letting it go too long. This is the mistake that is almost always made, and if surgeons would do the best that can be done for this class of sufferers, they must see to it that this work is begun at the very earliest moment; and one of the chief objects of this paper is help disseminate the principle of the *earliest possible removal of mammary cancer.* So much imperfect work has been done in operating for cancer of the breast that, if I may not say that it is a blot on the fair page of surgery, I may call it a blur. Seeing how little good, in so many cases, has been accomplished by operative measures, many good men seriously question the propriety of operating at all, preferring to permit the disease to run its course.

Most of our text-books speak of the unsatisfactory results which so often follow this operation, though it is advised in all cases in which the disease has not progressed so far as to involve the axillary glands too much; and nearly all conclude that in the cases that will do to operate on, life will be prolonged a year, more or less. It is, however, a question if life is prolonged at all in the majority of the cases.

Mr. Banks, Surgeon to the Royal Infirmary of Liverpool, than whom there is not a more practical common-sense man in the profession, says: "The operation, as commonly performed to prolong life, I believe to be a perfect delusion. Still I would advise every patient, who is in a suitable condition to undergo the operation, to have it done for the chance, the hope, and the respite it gives."

What shall we say to those patients who come to us for the first time with the mammary

gland extensively involved, and the axillary glands enlarged so that they can plainly and easily be felt? If I thought I could get all of the axillary glands out, and there was no pathological condition to forbid the operation, I would say: "I am afraid I cannot permanently relieve you; you did not come soon enough; but having an operation performed will free you from the growth for sometime—I cannot say how long. If you wish to have it done, I will do it for you." I would explain to her that, as a rule, the operation is not attended with danger or much suffering.

Erichsen says: "Even if it does not prolong life, it may greatly improve the patient's condition, and place her in a comparative state of comfort during the remainder of her existence. Thus, she may be suffering so much from pain caused by the local affection, or—if the cancer be ulcerated—may be so much annoyed by the fœtor of the discharges, that she will be placed in a condition of far greater comfort by having the local source of diseased irritation removed; and though she die eventually of cancer, it will be much less suffering to be carried off by cachexy with secondary growths in the lungs or liver, than to be worn out by the pain, discharge, and hæmorrhage of a slowly progressive ulcerating cancerous mamma."

Purcell adds: "We have gradually come to the opinion that the removal of cancer, when practical, is the best treatment; even if it does not delay the fatal termination, it is yet worth the patient's while to submit to the risk and trouble of an operation, with a view to removing a continual source of fear and misery."

Of course, cases will come to us which are so far advanced that we would not think, for a moment, of meddling with them.

What hope or chance is there for a patient with scirrhus of the breast? As I said before, what hope there is for a permanent cure, lies in having it removed early and in a proper manner. In regard to the operation being done early in the course of the disease, it may be summed up in four words: *The earlier the better.* As to the operation itself, I will say: Remove the mammary gland entirely, and all the axillary glands whether they appear to be implicated or not; *anything short of this is utterly useless.* Open the space and clean out every one you can find, and if they all appear to be healthy, *so much the better*—you and the patient may be thankful that they are so well. This is what Banks and the younger Gross insist upon, and there can be no question about its being the proper thing to do. Banks says: "After removing the mammary gland, make an incision from the wound you made in removing it, carrying along one inch below the border of the great pectoral muscle up into the axilla. Do not dissect down the posterior flap at all, if you can help it, since it is liable to form a pocket for pus."

There is also an important question to be considered in regard to the manner of removing the mammary gland itself. The usual plan described in text-books is to remove an elliptical piece of skin about as long as the diameter of the breast, and including the nipple, then dissect out the gland, afterwards bringing the edges of the wound together with sutures. Gross, Banks, Lister, Billroth, Kuster, Volkman, and others, say this is not the best way to do. The younger Gross, in his work on "Tumors of the Mammary Gland," says: "Remove the entire breast and its coverings by a circular incision down to the pectoral muscle. The large open wound is covered by an oiled compress, and left to heal by the granulating process. This may be sometimes assisted by skin-grafting." As Banks says, this makes the operation more serious, and more die from the immediate effects of the operation, but more will be cured by it. Now, there seems to be about as much reason for removing all the skin and fascia outside the mammary gland as for removing the axillary glands, because we know the tendency of the disease is to spread toward the outside surface, as well as along the lymphatic glands; and those of us who have had much experience in removing cancers of the breast know how liable the disease is to return in the skin and cellular tissues that cover the gland. In fact, judging from my own experience, in the majority of cases, if the axillary glands are thoroughly removed, and only a small elliptical portion of the skin and fascia removed, as is commonly done, when the disease does return, it will be in the cellular tissue and skin which covered the gland.

The above mentioned reasons, and the advice of such men as I have quoted, seem to leave little room for doubt, though I am unable to give much in the way of statistics to show the comparative merits of this mode of operating.

Banks has published the records of forty-six cases, ten of whom were alive and free from a return of the disease at periods ranging from two to ten years after the operation. Gross mentions one or more cases where the patients were well and free from the disease fourteen years after the operation. I believe he thought cancer of the breast might be cured by this manner of removal. I am sure Banks thinks so, and I have no doubt that a number of other surgeons think the same.

I think we may conclude that there is hope for this class of sufferers; that life may be prolonged, more or less, and some permanently cured. Perhaps, in the future, a permanent cure will come to be the rule.

PORTAGE, WIS.

Correspondence.

MOTHER'S MARKS.

I find in some of the numbers of the AGE of last year, a discussion upon this subject by several gentlemen, and in which, apparently, scant courtesy is exhibited, forgetting that:

> "Man must serve his 'prentice to every trade
> Save censure. Critics are already made."

The position taken by some, that a mother can, or may, mark her offspring, physically as well as mentally, during the period of utero-gestation, so far from being unscientific, may—if the premises are fully understood—be just the reverse. Although there is no nerve, or direct blood communication between the mother and fœtus, there is certainly psychical or electrical contact, so to speak, the latter being as it were between the cathode and anode of the parent's electrical organism.

What is nerve force? Is it not an electrical current of peculiar character or essence? If this is conceded, then the fact the mental emotions of the mother may, and can, affect the unborn offspring, is far from being unscientific.

One gentleman asserts that: "It is utterly impossible for a mother to mark her offspring if she has the presence of mind to touch her body with her hands at the time of the shock." If this be true, how does it obtain in any other way than by closing the circuit in her own person, whereby she directs the electric shock away from her offspring. We all know that the child in utero is often killed by the shock imparted to the mother through fright.

Hippocrates, "Father of Medicine," ignorant of the circulation of the blood, of anatomy, of physiology, yet the wise philosopher, careful, astute, and profound observer, was by these very qualities enabled to inscribe aphorisms that have flowed down the tide of centuries, and to-day are found based upon truth; and other careful observers followed in subsequent ages. The sages of early days, however, knew nothing of electrical force, or of the influence of electricity, yet their close observation and mental acumen, led them to the true source of many mysterious evils which they ascribed to the malign influence of the stars.

In conclusion, every one knows that the heavenly bodies are not without influence upon mundane affairs—that our own satellite produces the ebb and flow of tide. Why then should they not exert some influence for good or evil upon the mental conditions of those who inhabit our world. Truly:

> "There are more things in this world, Horatio,
> Than are dreamed of in thy philosophy."

W. D. HUTCHINGS, M. D.

MADISON, IND.

[The question whether marks or mutilations may be transmitted to the child by the parent, is one that presents itself to every thoughtful biologist. There is much to be said both pro and con. Looking at the matter from the evidence presented by the Lancet, of London (March 15th, 1890), it may be suggested that transmission by psychical contact—biologic impression—is possible and probable, while mechanical contact alone, such as in the main pertains to heredity, is without influence. In higher mammals, ordinary mutilations are rarely transmitted, while those marks of a character to impress the mind, not infrequently are.

The following is the summary arrived at by the Lancet:

In most works on physiology in which the subject is mentioned at all, it is admitted that impressions made on the mother during pregnancy may affect the offspring, and cases are recorded where the father having a distorted finger from an injury, children were born with similarly distorted fingers; and others where accidental injury to an eye in one parent was followed by some defect of the same eye in the offspring. But when such cases are followed out, it will generally be found that they rest on hearsay, or that the facts have been observed or reported with little attention to the accuracy that is required to render them credible. Darwin, with his usual caution, remarks in his "Animals and Plants under Domestication," that some mutilations have been practiced for a vast number of generations without any inherited result, and notes, with Godrou, that different races of man have from time immemorial knocked out their upper incisors, cut off joints of their fingers, made holes of immense size through the lobes of their ears or through their nostrils, tattooed themselves, made deep gashes in various parts of their bodies, and yet there is no reason to suppose that these mutilations have ever been inherited. Darwin refers, indeed, to the well-known experiments of Dr. Brown-Sequard, in which certain Guinea-pigs transmitted epilepsy to their descendants after injury to their spinal cord; whilst others (after injury to their sciatic nerve, leading them to gnaw off their own toes) gave birth to toeless Guinea pigs; but after alluding to many other cases which have been recorded of cats, dogs, and horses which have had their tails or legs amputated or injured, producing offspring with the same parts ill-formed, he remarks that as it is not very rare for such malformations to appear spontaneously, all such cases may be due to coincidence. Professor Weismann, in an essay on the supposed transmission of mutilations, expresses himself in much stronger terms. He points out that if mutilations must necessarily be transmitted, or even if they might occasionally be transmitted, a powerful support would be given to the Lamarckian principle, which is to the effect that a change in the structure of any part of an organism is chiefly brought about by exposure to new conditions of life which induce a change in habits; and this again leads to hypertrophy or atrophy of certain parts, and the modified parts are then transmitted to the offspring. On this principle Lamarck explained the long neck and the webbed feet of the swan, and the degeneration of the eyes in the proteus. Dr. Weismann refers to several frequently cited cases, and shows that they either rest on insufficient evidence, or that their occurrence may be explained in other ways. Thus, in the case of the tailless breed of cats in the Isle of Man, there is no evidence to show when or how it commenced; indeed, it is probable that

it is the outcome of a gradual process of reduction of the length of the tail, since a similar breed is found in Japan, and preserved from an idea that such animals are better mousers, whilst the number of vertebræ that are suppressed may be as many as ten. He tells a good story showing the care that should be exercised in admitting the spontaneous origin of such anomalies. Last summer Prof. Schottelius, of Freiburg, brought to Dr. Weismann a kitten with a congenital rudimentary tail, which he had accidentally discovered as one of a family of kittens at Waldkirch, a small town in the southern part of the Black Forest. The mother of the kitten possessed a perfectly normal tail; the father could not be identified. A closer investigation resulted in the following rather unexpected discovery. For some years past tailless kittens had frequently appeared in the families of many different mother cats at Waldkirch, and this fact is explained in the following manner: A clergyman, who lived for some time at Waldkirch, had married an English lady who possessed a tailless male Manx cat. The probability that all the tailless cats in Waldkirch are more or less distant descendants of that male cat, almost amounts to a certainty, and Dr. Weismann goes on to say, since a male Manx cat has reached the Black Forest, it might equally as well have arrived at some other place. In order to obtain experimental evidence on this point, Dr. Wiesmann mutilated a number of white mice by cutting off their tails. As the families were successively born the tail of each member was cut off, until, in the course of about fifteen months, 901 young produced by five generations had been thus mutilated. Yet only was there no instance of a tailless mouse being born, but in none was the tail shorter than 10.5 millimetres, the tail of a newly born mouse varying normally from 10.5 to 12 millimetres in length. This result does not, indeed, prove that mutilations might not be inherited, but it does militate against the commonly accepted view that the mutilation of an individual is likely to be transmitted to the very next generation. The subject is one of much interest, and those who happen to meet with well marked and well-authenticated instances of inheritance, if such cases ever occur, would do well to record them.

This, it will be observed, in no way militates against deformity or markings due to psychical impression, such as is recorded in Scriptures as taken advantage of by Jacob to secure a large proportion of the cattle of his father-in-law. It is very rare for hare-lipped children to be born to hare-lipped parents. Yet there are definite instances on record where a sudden fright, by psychical impression, secured this very deformity in a member of a family hitherto free from it.—Ed.]

Secret and Proprietary Articles at Medical Societies.—"On motion, the Committee of Arrangements was instructed to prohibit, in the future, the exhibition of secret or proprietary articles in connection with the meetings of this Society."—*Transactions of the Arkansas State Medical Society.*

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

—Published By—

GEO. S. DAVIS, Medical Publisher, Box 470.

DETROIT, MICH., APR. 25, 1890

Editorial.

AN ETHICAL AND MEDICO-LEGAL QUESTION.

Recently, in New York City, was called for trial a case which has no inconsiderable bearing upon the mutual relations, in law and equity, of physician and patient. The circumstances, as gleaned from the lay press, briefly stated are as follows:

The wife of a wealthy citizen, who was formerly a morphinomaniac, applied to a medical man for treatment for an unspecified malady. Her sufferings were such she demanded morphia should be administered hypodermatically, to which the physician finally acquiesced. Fearing, however, a relapse into her former habit, from which she had been rescued with great difficulty, the physician ventured to substitute injections of distilled water in place of a solution of morphine, and this form of therapeusis, as was conceded, was attended with most gratifying results. At the end of five months, the patient having become convalescent, the physician confessed the substitution, doubtless believing the facts would be a relief to the family. About the same time also, he rendered his account for professional services.

On seeking to collect the latter, payment was refused, and suit was thereupon entered, the defendant through her husband making response that the "Charges were extortionate, and deception had been practiced." As may be imagined, the defense was a quibble to avoid payment. The legal complications, however, were such that ere the trial was completed, the attorneys on both sides agreed to a compromise whereby the physician accepted one-third of the original bill.

From medical, legal, scientific, and commonsense views, the case presents most varied aspects. The moral sense of the patient in regretting that she was not afforded an opportunity to relapse into a slavish, degrading, brutalizing, soul-absorbing habit, is, to say the least, peculiar. Instead of being grateful for the escape, and for the trouble undertaken and manifested by the physician in her behalf whereby she was relieved from a painful dis-

ease, and obtained all the good results accruing from a dangerous narcotic with none of the evil concomitants, both the patient, and her husband, with high assumption of morality and righteous indignation based upon the legal aphorism that "fraud vitiates every contract," steadfastly set their faces against "any bargain with deceit or dishonor," and so repudiated what was admitted by all medical witnesses to be a most moderate and just account.

Patients, as a rule, place greater reliance upon the efficacy of drugs than those who habitually prescribe them are wont to do. Many believe the relations of disease and therapeusis are exact, something like those existing in chemistry between acids and alkalies; that every bane has its precise antidote or panacea somewhere hidden in the scope of the Materia Medica, and that all required is, a more than ordinarily wise individual to discover and apply this relationship. Were it not for these facts, the host of charlatans, traveling "doctors," dispensers of "Indian" physic, etc., instead of luxuriating and fattening at the expense of thousands of dupes, would fare but scantily. It is well understood by physiologists, that expectation, imagination, psychic force as evolved by mental contact, etc., are prime factors in therapeusis, often more potent than the direct agents employed in securing a stated or desired result. The administration of a remedy is one means to an end, while the impression made upon the patient is another, and both are legitimate and justifiable. Unavoidable deceit is not fraud *per se*, since it has no ulterior motive, and when deceit becomes remedial, it can scarce be considered dishonorable.

In this case, the deceit claimed by the defendants was simply a means to an end, and would be considered, even in the code of the most strict moralist, as both just and proper. Whether it was *legal*, however, in the general acceptation of the term, is another matter, and a question for the jurist rather than the physician. But even here, the law, while declaring that "fraud vitiates a contract," presupposes that the deceit is unjust, undertaken to an improper end *i. e.*, designed for the bettering of one or more parties to a contract at the expense of the remaining parties. Certainly no such excuse was available to the defendants either in fact or equity, though it was assumed by the attorneys to be a possible legal bar.

It is a matter of regret that the parties to the suit submitted to withdrawal and compromise, for a decision just at this juncture would be desirable as a precedent for subsequent cases of like character.

PHYSICIANS AND ADVERTISING.

In the general sense in which the term is employed, advertising has been considered derogatory to a learned profession, and especially so to that of medicine, whose relations, social and individual, are of the most confidential and sacred character. The chief reason, broadly stated, is that advertising pertains to barter and trade—to the precise marketing of goods that can be immediately and definitely delivered; and if the advertiser knows such to be impossible, or fails in the requirement, he is convicted on *prima facie* evidence as a falsifier and cheat.

Medicine, on the contrary, is not amenable to the laws of trade. It is not an exact science, and cannot hope ever to secure such status, since it depends upon factors more or less uncertain, because of constantly-shifting protean characters. Further, every malady demands separate study and consideration in its pathological and idiosyncratic relations to the individual. In any of the branches of medicine, the most promising hopes may, and are apt to be, shattered unexpectedly and without warning, even without apparent cause. Neither does the healing power lie with the physician, but with Nature and the relations of the latter to the patient; at best, the former is but an almoner, an adjuvant, and an assistant to an end.

These facts alone are sufficient to take the honorable physician out of the ranks of the advertising class, since his mission is not to be measured by sordid dollars and cents, but by skill, inherent and acquired, and constantly acquiring, the depths of which are unknown even to himself, except as revealed by emergency at the bedside. The charlatan, the advertising medical man, on the contrary, promises that which he is by no means certain of being able to deliver, and arrogates to himself a skill than he can give no assurance of possessing; he offers indefinite and uncertain goods under a definite and certain assurance and guise; he poses before the public, in fact, in the same way as the individual mentioned in Scripture, who said: "All this will I give Thee," when in truth he could not give evidence of title to a single rood of that which he so freely offered to bestow. Indeed, were the advertising doctor limited in his display in type to that of which he could give positive and definite assurance, the space occupied would be infinitesimal, not exceed the limits of an ordinary professional card.

These remarks are prompted by the recent discussion by the lay press of Chicago, on the dropping of a graduate of a local medical college from the rolls of its Alumni by reason of charlatanistic advertising. As might be expected, the remarks are quite the reverse of complimentary to the Code of Medical Ethics, and to the legitimate medical profession, being prompted, doubtless, by lust for the shekels of those who deny themselves the benefits so freely offered by newspapers and their advertising solicitors.

One of these lay journals upholds the unworthy scion of his Alma Mater as "a young man who has made a scientific discovery," one which if made by "one of the apostles of the Ethical Code" would have "never benefitted suffering humanity." Another admits it "favors the cause of the man who advertises," and deems the custom that forbids advertising by physicians, "old and absurd," and then concludes:

One can readily understand why self-laudation and brazen puffery should be debarred, for that is the trick of quacks; but puffery is one thing, and a simple announcement of the specialty which the physician feels qualified to treat, is another. The purpose of an advertisement is, to bring those who want something, in contact with those who have that something to dispose of. The physician's advertisement would answer the same purpose. The patient wants to be healed. The advertisement would acquaint him with the doctor who could heal him, and who had the skill to deal with his special case. This is not puffery or quackery. On the other hand, it looks very much like humanity.

That the medical man is forbidden by custom a "simple announcement" of his specialty, is a fact that remained to be discovered by the Chicago press. Further, as already stated, the practice of medicine is not a *trade*, and the physician has *nothing* definite "to dispose of." Neither is an advertisement, any more than the patent medicine almanac, evidence of "skill to deal with a special case," and the "humanity" is very much one-sided and of the "spider to the fly" type.

Our lay journalistic brethren forget, perhaps, that those who have made themselves most famous as teachers and practitioners, and who have reflected the greatest lustre on the medical profession, are without exception non-advertisers and upholders of the "odious Code." They ignore the fact also, that they themselves when not swayed by monetary considerations, are among the first to revile as pretenders, clergymen, pharmacists (as such), lawyers, and physicians, and most justly, when such venture to usurp the prerogative of the tradesman, and sound their own praises and puff their questionable wares; and in so doing, they only voice the sentiment of the community at large! It is merit alone that is the absolute measurement of professional success and public confidence, and not the self-laudatory encomiums that are formulated solely as a means of pecuniary advancement.

THE MICROBE OF PNEUMONIA.

It is now pretty generally conceded that pneumonia, once considered the type of febrile inflammatory diseases, is an infectious microbic malady, having for its causal agent the lanceolate micro-organism designated *pneumococcus*. The experimental demonstration of the relationship of this microbe to the disease was first furnished by Friedlander, in Germany, and about the same time by Salamon, in France. By inoculating pure cultures of the coccus in animals susceptible to the disease, such as hares and mice, was obtained a true fibrinous pneumonia containing in abundance the cocci in the exudation. Like results also accrued to Cornil and others. It may now, then, be considered as established that true fibrinous pneumonia is not only a *local*, but likewise a *specific* inflammation, produced and characterized by a definite microbe, remaining local as long as the parasite does not overpass the limits of the pulmonary parenchyma.

It has also been demonstrated that something more than the irritant presence of the parasite is needed that true pneumonia may be engendered. It is true that without the parasite the characteristic lesions and exudation cannot be provoked, but also it is believed to be a harmless microbe in conditions of health. Sternberg showed the identity between this microbe and a micro-organism found by him in the saliva of the healthy, the *micrococcus Pasteuri*, and he also demonstrated that pneumonia may be engendered by inoculation of the saliva microbe in animals susceptible to the disease. This view has since been confirmed by other authorities, and is defended by Professor Jaccoud in the lecture published on another page.

The other factor necessary is some depressing influence, as cold, the inhalation of irritants, vapors, etc. It has been found, for instance, that if a hare or Guinea pig be taken and exposed for a time to severe cold, especially *damp* cold, upon inoculation with the pulmonary exudation of a pneumonic patient, with cultures of the pneumococcus, or even with the salivary microbe, a genuine fibrinous pneumonia is produced with great constancy, often rapidly spreading to the neighboring organs and becoming generally infectant. This fact constitutes one of the greatest micro-biological dicoveries of the age.

In the lecture of Jaccoud published elsewhere, it would seem that the pneumococcus could have had no pathogenetic influence; the disease was evidently one of idiopathic facial neuralgia, which by reason of the vaso motor and secretory disturbances accompanying it, furnished favorable conditions for proliferation to a microbe already existing in the nasal passages.

North Dakota Medical Society.—The 4th Annual Meeting of the North Dakota Medical Society will be held at Jamestown, N. D., May 27th and 28th, 1890. J. R. Logan, Sec'y., Grand Forks, N. D.

Book Notices.

SEASES OF WOMEN. By Chas. H. May, M. D. Revised by Leonard S. Rau, M. D. Cloth, large 12 mo., pp. 373. Price, $2.00. Published by Lea Brothers & Co., Philadelphia.

The author admits this volume is but a compilation from Emmet, Thomas, Munde, Simpson, Barnes, Playfair, *et al.*, "condensed, classified, and arranged, to make the book a short and systematic treatise on the theories and practice of the diseases peculiar to women, which shall represent the accepted views in this modern science." Further that it is intended "to aid the student who, after having carefully perused larger works, desires to renew the subject."

This is certainly a claim for a somewhat unique place in medical literature, and we fear is an attempt to conceal the use that is sure to actually be made of the volume. Though designed as a "concise and systematic exposition" of Gynæcology "for practitioners and students," it certainly possesses no advantages for the former, since it is not conveniently arranged for reference, and the references moreover are omitted. It can then only serve as a "cram" book, since it is not sufficiently full to be even explanatory of itself, and can only aid students in the way of diffusion of sufficient knowledge to render them egoistic, and dangerous as practitioners. New books, of merit, upon any medical subject, are always acceptable, but the rehashing and revamping of really good authors, frequently to the detriment of the latter, is a pernicious custom that is alike dishonest, and misleading; such are the outcome of the anxiety that possesses the half-educated to see themselves in print, and to secure the simulation of authorship.

CHRONIC URETHRITIS AND ITS TREATMENT. By Matthew Berkeley Hill, M. B., F. R. C. S. Cloth, 8 vo.; pp. 47. Illustrated with colored plates. Price, 3s. 6d. Published by H. K. Lewis, 136 Gower Street, London, W. C., England.

This work embodies three lectures delivered at the Royal College of Surgeons in June of last year. The *first* treats of the urethra in health and disease; of the morbid changes induced by urethritis, and the symptoms of the chronic form. Lecture *second* deals with the treatment of chronic urethritis, the physiological relation of remedies thereto, diet, direct and indirect medication, etc. Lecture *third* is devoted to prostatitis, its complications and provocatives, including nervous exhaustion and irritation; and also of prostatic tuberculosis. The colored plates, six in number, with thirty-nine illustrations, add to the value of a most interesting and commendable work.

WOOD'S MEDICAL LIBRARY. Volume 6, No. 1, April, 1890. Paper, 8 vo.; pp. 290. Price, $1.00. Published by Wm. Wood & Co., New York.

This is a most interesting number. Embraced is a valuable monograph by Thos. S. Ellis, M. R. C. S., on "The Human Foot; its Form and Structure, Functions and Clothing." Sir Henry Thompson, F. R. C. S., follows with "Modern Cremation; its History and Practice." James Ross, M. D., L. L. D., adds also a paper on "Aphasia; a Contribution to the subject of the Dissolution of Speech from Cerebral Disease."

HEADACHES IN DIAGNOSIS: in chart form, 9x13. By Dr. C. Coleman Benson. Price, 55 cents. Published by the author, Baltimore, Md.

Herein the head is mapped into the various supposed seats of direct and reflex pain from the brain and other organs of the body, and their causes and treatment suggested. Other information is added on headaches and vertigo, and their pathological symptoms and significance.

Notes and News.

The Monument to Dr. J. Marion Sims,—It will please the many subscribers to the J. Marion Sims Fund, to learn that the Committee having the subject of a suitable monument in charge, have given unceasing attention to the subject ever since the money to be appropriated in this way was so promptly and cheerfully contributed by the many friends and admirers of the late Dr. Sims. Endeavors were made to place the execution of the work in this country, and to this end a considerable number of models were submitted to the Committee for approval by the Profession, and were exhibited in the parlors of the Academy of Medicine of this city. None of them, however, gave sufficient satisfaction to warrant the Committee in an acceptance, and they were again obliged to seek for further propositions from sculptors, and this time they invited proposals from abroad. The design for a full-length figure, to be cast in bronze, nine feet in height, submitted by the Koniglischer Ergiesserei, of Munich, Bavaria (the most celebrated bronze foundry in the world), has given general satisfaction to the Committee, and to the members of the family of the late Dr. Sims who have seen it. The contract for its execution has therefore been awarded to Mr. Von Miller, the proprietor of the foundry. A recent letter from him states that they are proceeding with its execution. It is expected that it will arrive in America some time next year, accompanied by the design and working-plans for a granite pedestral of about eight feet in height. The question of its site in the Central Park of this

city, as first proposed, will, therefore, soon arise for consideration. It is proper for us to state further, that the money contributed for this purpose has been, since its collection, deposited, and still remains at interest, with the United States Trust Company of this city.—*N. Y. Med. Record.*

Saint or Pathologist?—A paragraph is going the round of the papers to the effect that Sister Rose Gertrude, when she reaches her destination at Father Damien's Island of Lepers, will commence a series of experiments upon frogs and rabbits by inoculating them with microbes of leprosy cultivated in chicken broth, after the method of M. Pasteur. We are informed that she has been instructed in the art of propagating microbes in living animals at the Pasteur Institute in Paris. We hope that there is no foundation for these statements. Sister Gertrude is not a "medical woman," her pathological investigations are not likely to have any value whatever, and it will give the opponents of experiments on living animals cause to blaspheme when they find that the latest heroine of the Christian faith, and a possible martyr to the cause of higher humanity, has attempted to combine the slightly incongruous rôles of experimental pathologist and Catholic saint. Should she succeed in both parts, we may live to see a new style of painted windows in our churches. Female saints bearing instruments of torture under which they suffered martyrdom, will give place to young ladies in the garb of nuns holding scalpels, saws, and injecting syringes, with a supply of rabbits and Guinea-pigs expiring at their feet. —*Hospital Gazette.*

American Medical Association.—This representative National organization holds its 41st annual session at Nashville, Tenn., May 20th, 21st, 22d and 23d. Secretaries of medical societies entitled to representation are requested to forward at once, to Dr. Wm. B. Atkinson, Permanent Secretary, Philadelphia, lists of their delegates.

Among other business that will come before the general session will be the following ammendments to the by-laws proposed respectively Drs. A. L. Gihon, U. S. Navy, and X. C. Scott, of Ohio:

That the first day of the meeting of this Association shall be on the first Wednesday of May or June respectively, instead of Tuesday.

That the Committee on State Medicine be abolished, inasmuch as the Section on State Medicine occupies the entire ground.

The addresses will be delivered as follows: On "General Medicine," by Dr. N. S. Davis, of Chicago; "General Surgery," by Dr. Samuel Logan, of New Orleans; "State Medicine," by Alfred L. Carroll, New York City.

Members who design to attend the meeting, will be granted a reduction in railroad fare on their return only, under the usual conditions. Special information regarding this and other matters may be had by addressing the Permanent Secretary.

The Freedom of the Medical Press Established.—It is currently reported that the editor of the Cincinnati Lancet and Clinic, Dr. J. C. Culbertson, had a little experience lately which shows that he possesses brawn as well as brains. It appears that some briefless barristers built up a suit for $10,000, against a prominent surgeon of Cincinnati, based on the statement that in a gynæcologic operation he had once performed, he left a piece of broken needle in the wound.

Dr. Culbertson, in a scathing editorial condemned the attempt of the lawyers to blackmail the surgeon by a suit for damages under the circumstances detailed and, according to the Medical Record, the limbs of the law read, and writhed, condemned and sentenced, the writer to a dose of cowhide. They sallied forth, with their cowhides fresh and new. They entered the Doctor's office and, without presenting their cards, began using their pretty weapons. The editor, who was brought up on a big farm, soon recovered from his surprise, shook his powerful frame, took the weapons from the legal sprouts, gave them the dose they came to bestow upon him, walked to police headquarters with a cowhide in each hand and blood in his eye, and quieted official fears by telling them he had only come to swear out a warrant for assault and battery.

International Medical Congress.—All who propose to attend the session of the International Medical Congress in Berlin next August, are requested to forward to Wm. B. Atkinson, M. D., Philadelphia, their names and the number of tickets they will require. Arrangements have been made to obtain special rates on the lines to Europe. The Netherlands-American Steam Navigation Co. will give transportation to Boulogne, France, or Rotterdam, Amsterdam, Holland, from New York and return for $90 in first class rooms inside,or $105 outside, to members of the American Medical Association and their families, sailing from New York May 1st, 8th, 15th, 22nd, 29th, June 5th, 12th, 19th, 26th, July 3rd, 10th, 17th. Berths for June steamers must be engaged before May 1st; and July by May 15th. For those who desire it, free passage will be granted from Rotterdam, or Amsterdam via Flushing Queensboro' to London for the return trip.

A "Mumps" Ptomaine.—Dr. A. B. Griffiths communicates an interesting note to the Chemical News on a ptomaine which, by Luff's method, he has isolated from the urine of a patient who was suffering from "mumps," the kidneys being involved. The "mumps" had

attacked the parotid and submaxillary glands. The ptomaine was obtained in white prismatic crystals, forming a crystalline hydrochloride. It was found to be soluble in water, ether, and chloroform. It gave precipitates with the common alkaloidal reagents, none being particularly characteristic. That with potassio-mercuric iodide was of a slight yellow color, and the phospho-molybdate one of golden yellow. An analysis indicated that the formula of the principle is $C_6H_{13}N_3O_2$, and further examination pointed to the probability of its being propylglycocyamin.

$$HN=C<\begin{matrix}NH_2\\N(C_3H_7).CH_2CO_2H.\end{matrix}$$

It is therefore closely related to creatin (methylglycocyamin). The principle was found to be poisonous, causing in a cat nervous excitement, cessation of the salivary flow, convulsions, and death.

The Most Frequently Used Narcotics.—Dr. Kerr, the author of a recently issued work on Inebriety, is reported to have said when interviewed lately as to the use of narcotics: "I could give you a formidable list which women in all ranks of society are daily using: Chloral, chlorodyne, ether, chloroform (less used by women here than in America), sal volatil, eau-de-Cologne, and so on. I have known ladies addicted to alcohol to drink three bottles of brandy a day. A bottle a day is by no means an uncommon quantity. I have had patients who habituated themselves to two ounces (960 grains) of chloral as their daily allowance. I have treated patients who have been in the habit of swallowing eight ounces of chlorodyne a day; and I have known ladies who could take a pint of chlorodyne in twenty-four hours. Both tea and coffee are used in excess. I found a patient insensible in her room one day who had drunk nothing but tea; but she had consumed a pound of tea in the day. Tobacco, in the form of cigars as well as cigarettes, is constantly resorted to by women; thirty cigarettes a day has been the allowance of some of my patients."

Experiments on Rabbits to Determine the Laxative Action of Glycerin.—In order to discover the laxative action of glycerin, C. Lüderitz has experimented upon rabbits, in which the effects produced by the enemata were observed through the opened abdomen. After the injection of a moderate quantity of glycerin, a little transparent fluid soon appeared in the rectum around the fæces, and gradually became apparent throughout an extent of 15 centimetres from the anus. At the same time, the mucous membrane became more injected, and energetic movements were seen in it which had the effect of forcing downward the contents of the intestine. These movements were only manifested in the presence of the fluid referred to. In some cases the intestinal movements were not powerful enough to overcome the action of the sphincter, and no evacuations occurred; in the other cases evacuations took place without visible intestinal movements. The action of the glycerin, therefore, is a local one, confined to the portion reached. The reporter is of the opinion that the action of the glycerin in man is explained in the same manner.—*Centralb. f. Klin. Med.*

The Bacillus of Tetanus.—The attempt has many times been made to isolate from pure cultures a toxic substance capable of engendering the infection provoked by the micro-organism itself. Brieger was the first to isolate these toxines, and among them that which is supposed to cause tetanus.

Experimentors have found in soil taken from gardens, certain micro-organisms which, when inoculated in animals, determine tetanus. Weyl has cultivated these microbes, isolated from garden earth by his colleague Kitasato, and obtained therefrom Brieger's tetanine, which when inoculated in mice and Guinea pigs has caused tetanus in the course of twelve hours. The microbes were separated by a Chamberland filter, which allowed only the soluble products to pass through. When the pure filtrate was inoculated, the disease developed more rapidly and more intensely than when the ptomaine alone was injected; and when the unfiltered culture liquid was injected with its microbes, the toxic symptoms were still more prompt and violent.

The April Number of the Home Magazine, conducted by Mrs. John A. Logan, and published by the Brodix Pub. Co., Washington, D. C., contains: An April Poem; Pictures of the World's Fair Committee; Empress Augusta—by Mrs. Logan; A trip to Hebron—by Mrs. Lane; "Janet: A Story"—by Mrs. Oliphant; King's Daughters—by Mary Lowe Dickinson; An illustrated article on Vice-President Morton's Home; The Woman's College, at Baltimore, Illustrated; Bright Bits from Bright Books; All about Marie Bashkirtseff; Extracts. The little folks are remembered in a story of Abraham Lincoln, the White House and his boy "Tad;" Picture of the woman "who went up to the moon" to sweep the cobwebs out of the sky. There is a "Dining Room," department, with a seasonable bill of fare; and Society Notes, A Short Story, and a host of other good things. The Magazine is sent three months for ten cents.

Persistency of Scarlatina Poison.—Sir Spencer Wells is quoted in the Medical Press and Circular as authority for the following example of the persistence of the scarlet fever poison:

"In Yorkshire, a number of scarlet fever pa-

tients who had died were interred in the country church yard. In the course of time some of this ground ceased to be used as a burial plot, and became a part of the garden of the rectory. The rector caused a digging up of soil where the scarlet fever bodies had been laid thirty years before, and with the result of causing an outbreak of the fever in his own and adjoining households.—*New York Medical Journal.*

A Remedy for Patent Medicine Humbugs.—From Bulgaria comes the information that its people are blessed with a law which makes it possible to prosecute and send to prison a patent medicine manufacturer who "warrants to cure" and fails to do so. This is doubtless very disastrous for the manufacturer of harmful and worthless nostrums, but as the natives certainly derive a corresponding benefit therefrom, it merely goes to prove that "'tis an ill wind that blows nobody good."—*Pacific Drug Review.*

Therapeutic Brevities.

Sambucus Nigra as a Diuretic.—Mr. G. Lemoine, of Lille (L'Union Médicale), has made a study of *Sambucus nigra* (elder), the properties of which were discovered by the Ancients. The soft white bark next to the wood is the part possessing diuretic properties, but it is absolutely necessary that it be fresh. The author employed it in a decoction made by boiling a handful of the bark in a litre of water, the dose being from a litre to a litre and a half *per diem.*

Sambucus thus used is a diuretic of the first order, rendering great service in the treatment of ascites and anasarca dependent upon kidney and heart lesions. With the administration of sambucus it is often possible to increase the daily secretions of urine, in a short time, from 400 grammes to 2,000 grammes, or even more. The best effects are obtained in the albuminuria of nephritis, and in the ascites which accompanies tubercular peritonitis in children; but its influence upon the ascites of hepatic cirrhosis is feeble. It also acts upon the intestines, producing from four to six liquid stools *per diem.*

Lemoine believes that sambucus produces its diuretic effect by a direct action upon the kidneys; it does not influence the heart or the circulation except through its diuretic action. It is a diuretic which owes its properties to an action upon the renal epithelium.

Combemale and Dubiquet have completed the researches of Lemoine, obtaining the following results:

1. To produce polyuria with the entire bark requires a dose of from nine to ten grammes per kilogramme of the body weight.
2. To produce the same effect with the outer bark requires still larger quantities.
3. A much more intense effect is produced with the inner bark when given to animals in the proportion of four grammes per kilogramme of the animal's weight.
4. After macerating the inner bark, three grammes, per kilogramme of the body weight, is sufficient to produce polyuria, which is accompanied by nausea, vomiting, and diarrhœa. This is accompanied by lowering of the temperature, and retardation of the pulse and respiration.—*Jour. Amer. Med. Association.*

Ethylate of Sodium—A New Depilatory.—A minor operation the physician is frequently requested to effect is,the removal of redundant and adventitious hair which produces facial disfigurement; but of the many old and time-tried agents, among which are the sulphides and sulphohydrates of potassium, calcium and sodium, also the sulphide of arsenic, none have proven uniformly successful and safe. the hair persistently reappearing, owing to failure to penetrate the follicles, in many instances producing disagreeable and ugly sores which steadfastly refuse to heal. Even the greatly vaunted electrolytic method has been found to be ineffective, tedious,and ill-adapted to extensive surfaces, for the same or similar reasons, and, therefore, it is announced with considerable gratification that a new, effective, and perfectly harmless agent for hyper-trichosis has been discovered. This is ethylate of sodium, produced by the action of metallic sodium upon absolute alcohol; it occurs as a whitish powder, dissolving in water with decomposition into alcohol and caustic soda, but soluble in absolute alcohol without resolution. To insure perfect results, it is necessary that the chemical be of undoubted purity, that it be dissolved in absolute alcohol (free from even traces of water), that the parts to be denuded be bathed with absolute alcohol previous to application, and that the solution be rubbed thoroughly into the tissue with a glass rod after closely clipping the protruding hairs. In the course of a week or two, a hard crust becomes detached, and the tissue will present a paler hue. The major portion of the hair and follicles will be found to be destroyed; whatever remains may be removed by an immediate application. Birth-marks, moles and other cuticular disfigurements, possibly tattoo marks and warts, may be removed if the outlined procedure be accurately followed. Whenever the skin is more than ordinarily sensitive or delicate, as is the case with infants, it may be well to apply a 5 per cent. cocaine solution on the patient, as considerable pain will manifest itself.

The Therapeutic Effects of Grindelia Robusta.—Professor Bufalini publishes, in the Internationale Klinische Rundschau, the results he has obtained from the administration of *Grindelia robusta* in his clinic at Siena. He states that the drug has been used for some time past in America as an expectorant, and in asthma, and preparations of the plant are incorporated in the Pharmacopœia of the United States. A complete analysis of grindelia has never been published; yet Radenaker has extracted a terpin, which in odor resembles turpentine; a resin, which he calls "grindelin"; and some substance with an alkaline reaction, which has not been fully examined. Ayres and Gibbons were the first to make any practical use of the anti-asthmatic and antiseptic qualities of grindelia robusta

in the treatment of the asthma of bronchial catarrh, when complicated with dyspnœa, and of vesical catarrh. Later on Bartholow and Buffington observed that grindelia was also useful in heart disease. In their experiments they succeeded in obtaining diminution of the the contractions of the heart, a rise of the blood pressure, and increased frequency of respiration. After the publication of these experiments, Dr. Dobroklonsky studied in the clinic of Professor Botkin the therapeutic virtues of grindelia in affections of the circulation of the blood, and he, too, found that the extract has very marked influence on the frequency of the systole. According to this author, the best success is obtained in the treatment of heart disease by combining grindelia with adonis vernalis. Professor Bufalini has in the last two years repeatedly administered grindelia, and has in many cases of irregular, intermittent pulse, obtained remarkable results with it. He therefore strongly recommends this drug in all cardiac affections in which a regulating effect on the heart's action and the restoration of an arythmic pulse are indicated. The dose of the extract is from seven to fifteen grains.—London *Lancet*, March 8th, 1890.

Hydrastinine in Gynæcology.—In the February number of the Therapeutic Gazette, Dr. Edmund Falk of Berlin gives an account of this new alkaloid, $C_{11}H_{13}NO_3$, which is formed, along with opianic acid, by gently heating a mixture of hydrastine and nitric acid, and precipitating with an alkali. The alkaloid itself is perfectly white, and contains a molecule of water of crystallization, but its salts are free from it, and most of them are readily soluble in water. The physiological action of the drug differs, it is said, very materially from that of hydrastine. It is not a spinal irritant, and is a heart stimulant instead of a paralyzer of that organ; it also sustains persistent contractility of the vascular system without the paralysis which has been known to follow the use of hydrastine. Dr. Falk has made repeated demonstrations with hydrastinine, and suggests it as a remedy in the treatment of uterine hæmorrhages, as being much more prompt and sustained in its action than ergotin. Report is made of 26 cases systematically and success fully treated with it. The 26 patients received in all 400 injections of hydrastinine hydrochloride, in the form of a solution varying from five to ten per cent. There were no noticeable local irritations following these injections at any time. The patients were unanimous as to the painlessness of the applications and the freedom from that subsequent discomfort which so often arises from the use of ergotin. The discoverer is making further investigations, the results of which are to appear in due course in the Archiv. für Gynäcologie.—*N. Y. Med. Jour.*, March 22d.

Glycerin Suppositories in Infantile Constipation.—My attention was called by a patient to a communication, in the February number of Babyhood, concerning infant constipation, signed "M. A S." I am glad that one of our Brooklyn mothers has been led to speak so practically and so sensibly. Castor oil, senna, and rhubarb, in the hands of "beautiful grandmothers," are most pernicious in their effects. Frequent enemas are also to be avoided. In the majority of the cases of infant constipation, which, as your correspondent truly says, "is impactment of the lower bowel," the system needs no other aid than that which can be given by a simple local remedy. This must be a remedy in every sense of the word, and a suppository that is medicated is most mischievous in its tendency. Indeed, one might almost as well prescribe cathartic doses for this trouble.

So, after reading the excellent advice of "M. A. S.," it seemed to me best to supplement it by saying to the many mothers whose babies are suffering from constipation, that glycerin suppositories, known to be absolutely pure and unmedicated, are prepared by the manufacturing chemists, Parke, Davis & Co., 60 Maiden Lane, New York, and can be found at most drug stores. There may be others equally pure, but the danger of experimenting with infants is so well-known to physicians, that it cannot be too carefully guarded against. —Ward C. Pardee, M. D., in "*Babyhood*," April, 1890.

Bromide of Ethyl as a General Anæsthetic in Dental Surgery.—Dr. Ivan N. Drakin, in Novosti Terapii, 1889, No. 38, highly recommends bromide of ethyl as a general anæsthetic, eminently suitable for all dental operations of under fifteen minutes' duration, the recommendation being based on 200 cases of his own. It is administered from an ordinary inhalatory mask, the average dose for producing narcosis being about half an ounce; complete anæsthesia follows within a minute, and lasts about 15 minutes. The following essential advantages in comparison with chloroform and nitrous oxide are claimed for bromide of ethyl: 1. While paralyzing pathic sensibility, the bromide leaves the tactile one intact, and does not affect consciousness to any considerable degree. 2. The pulse and respiration, as well as a muscular tone, remain unaltered. 3. Vomiting occurs but seldom (2 out of 200 patients). 4. Recovery from anæsthesia is rapid, easy and spontaneous. 5. Bromide anæsthesia is not accompanied by any unpleasant accessory phenomena (except habitual drinkers and hysterical persons, in whom recovery is followed now and then by some fleeting and slight excitement). 6. No assistants are needed. 7. The bromide is an entirely safe and harmless anæsthetic, provided an absolutely pure drug is used, since injurious preparations are inactive as anæsthetics, but may give rise to disagreeable and even dangerous accessory effects. The author always uses Merck's preparation. — *Annals of Surgery.*

"*Eucalyptus Rostrata*" *in the Treatment of Sea sickness.*—Dr. W. M. Russell, of the Union Line, Royal Mail Service, writes in the British Medical Journal of February 22d: From time to time, I have been driven nearly to my wit's end endeavoring to relieve that most distressing vomiting which takes place in some cases of sea-sickness, especially in the cases of delicate or strumous females. I have tried amyl nit., camphor, cocaine, bismuth, chloroform, morphine, caffeine, bromides, and most of the other treatments usually employed, but,

I must confess, with very little success. At length I was induced to try the effects of the "red gum." I got the idea from an old "gold-digger" who was a passenger under my care, saying it always cured him. I have made several experiments with it, and am very pleased with the results, as it almost invariably gives relief where the more orthodox modes of treatment fail. I think the most convenient mode of administration is in the form of lozenges (trochisci eucalypti gummi, gr. i in each). The patient can thus easily carry about a few in the pocket, and take one when he feels the sickness coming on. By using them in this manner, I have found three or four during the day sufficient; and I may remark, I have never heard any of my patients complaining of the treatment producing constipation. I am convinced that if any of my "brother chips" at sea give this a fair trial they will not be disappointed. —*Hospital Gazette*, March 1st, 1890.

Grossman: Infantile Ophthalmia and Its Prevention.—It is estimated that thirty per cent. of the blindness met with, results from this disease, and that there are no less than seven thousand blind from this cause in the United Kingdom. Observations by different observers show that the gonococcus is present in a majority of cases, but in some it is absent. This leads to the conclusion that the disease may be due not only to gonorrhœal secretions, but also to other vaginal discharges.

The disease is preventable and curable, if seen in time. In treatment, nitrate of silver, carbolic acid, corrosive sublimate, and iodoform, have all given good results. Nitrate of silver is preferred, but the two-per-cent. solution used by Credé is stronger than is required. It is effective down to one-half per cent. Tables are presented showing that where the disease had occurred, in from nine to thirteen per cent. of the cases it disappeared under prophylactic treatment.

In the discussion by several gentlemen, the great importance of the subject was dwelt upon. It was universally agreed that the antiseptic employed was of less importance than the thorough cleansing of the eye and the immediate removal of pus as it formed. Simple prophylactic means are very effective. Careful washing of the eyes with lint and tepid water, immediately upon the birth of the head, had prevented the appearance of ophthalmia in two thousand labors.—*Brit. Med. Journal.*

Phenylurethan.—Another crystalline body, one of the aromatic group of carbon compounds, has been announced as having antipyretic and analgesic properties. It is also said to be exceedingly diaphoretic. It appears in the form of white powder, soluble in concentrated alcohol, but insoluble in water. Under doses of eight grains, the temperature is lowered three degrees in from 20 to 40 minutes, the effect lasting from 9 to 12 hours. It is highly recommended for trial in chronic articular rheumatism, since it is probable that it will not only relieve pain but reduce the swelling of the joints. The proponent of the new remedy is Professor Guaconnoni, whose report, as presented to the Academy of Medicine at Turin, has been published in part in Zeitschrift des Apothekervereines. The standard dose is said to be eight grains.

The Non-Operative Treatment of Anal Fistula.—Guyon believes that fistulæ which do not give rise to distressing symptoms should not be operated on, but treated by palliative measures. The stools should be rendered regular and soft, and scrupulous cleanliness be insisted upon. Internally, iron associated with the bromides may be administered according to the following formula:

℞. Bromide of potassium, 75 grains.
Citrate of iron and ammonium, 4 grains.
Syrup of orange, 2 ounces.
M. Sig.—One tablespoonful twice daily.

After each stool the following suppository should be introduced into the rectum:

℞. Iodoform, 2 grains.
Extract of belladonna, $\frac{1}{6}$ grain.
Cacao butter, sufficient quantity.

—*London Medical Recorder*, January, 1890.

Simple Steam Bath.—In an Edinburgh professional journal, a simple and ingenious contrivance is mentioned, to admit of the continuous inhalation of steam fumes by patients suffering from diphtheria. This is nothing more than the fixing of an open umbrella to the bed, or suspending it from the ceiling, and throwing over this a large sheet, which, falling in a tent about the patient, will surround him with the atmosphere of steam. The steam is supplied by a pipe connection with a kettle or other boiling contrivance that passes beneath the tent. The suggestion is so admirable and feasible, that we are sure it will be welcomed by many physicians who are sometimes at a loss, in the absence of especially devised contrivances, to know how to effect with simple means the end desired in such cases.—*Babyhood* (*Indiana Med. Jour*, March, 1890).

Prescription for Pigmentation of Pregnancy.—The following ointment recommended by Monier is quoted in the Internationale Klinische Rundschau:

℞. Cacao butter, } of each, 2¼ ounces.
Castor oil. }
Zinc oxide, 45 grains.
Ammoniated mercury, 2 grains.
Oil of rose, sufficient quantity.
M. Sig.—To be applied morning and evening.
—*Medical News.*

Antiseptic Inhalant.—

℞ Eucalyptol }
Oil of turpentine } ää 3 iij.
Creasote }
Iodoform, grains vij.
Ether, ♏ lxxv.
M. To be used in an inhaler.

Combination of Bromide of Potassium with Belladonna for Enuresis.—This combination proved effectual in two cases of long duration, after other means had failed. Ten grains of bromide of potassium, with 10 to 20 minims of tincture of belladonna, were administered at bedtime.—Dr. Richards in *British Med. Jour.*

Medical Progress.

THE ROLE OF URIC ACID.—At the last two meetings of the Royal Medico-Chirurgical Society, the subject of the formation and pathological significance of uric acid in one form or another, has come very prominently to the front. The exhibition of Sir Henry Thompson's magnificent collection of calculi, one of the tangible results of a long and successful career, naturally brought up the question of the pathological conditions which underlie the formation of uric acid calculi, and the extent to which it can be held in check or prevented by dietetic precautions or medicinal measures. The paper read by Sir William Roberts at the last meeting of the Society, on the history of uric acid in the urine with reference to the formation of uric acid concretions and calculi, was the natural complement, coming from a physician, to the surgical aspect so well illustrated by the trophies of Sir Henry Thompson. The first impression created by the paper, is one's surprise at the little that is known in respect to this very interesting and important problem. As the author pointed out, the presence of uric acid in the urine of animals with liquid urine, is an anomaly, since as a vehicle for the elimination of nitrogen its place is taken by urea. Curiously enough—and this is the case with many other apparent anomalies elsewhere in the body—uric acid, though physiologically insignificant, is, from a pathological point of view, the most prominent component of the urine. Hence the mechanism of its formation, and the causes of its deposition, are peculiarly important. The first important fact which the author's researches have elucidated is, that the formation of uric acid concretions and calculi is really to a large extent independent of the absolute amount of uric acid present in the urine. A person may be excreting a relatively large amount of the acid, and never be troubled by anything in the nature of a gravel, while, on the other hand, with an abnormally small proportion of the acid in the urine, his life may be made a misery by the constant formation of irritating concretions. In other words, it is the deposition of the uric acid, and not its excretion, that determines its pathological significance. It was the conception of this fact that led Sir William Roberts to undertake a series of researches with the object of ascertaining the conditions that led to the too ready precipitation of the acid in certain cases independently of its presence in excess. The explanation of this phenomenon is, that in normal urine, uric acid is found in the form of *quadurates*, a super-acid combination first discovered by Bence Jones. These quadurates have the remarkable property of being soluble in normal urine, but of being decomposed and setting free the acid in the presence of water. This takes place in urine, under ordinary circumstances, in the course of three or four days, but the rapidity with which the whole of the uric acid is set free, varies greatly in different specimens of urine, whether from different persons, or from the same person at different periods of the day. The fact that the quadurate resists the influences at work for so long a period, led the author to infer that the urine must contain ingredients which inhibit or greatly retard the action of the water in the urine upon the quadurates. The most important factor in this respect, has been shown by him to be the saline constituents, and secondly, the pigments in the urine. These results explain with a clearness, that has not before been approached, the prevalence of acid calculous formations among people in countries and districts, and among classes of our own population, in which, for any reason, the diet is unduly poor in saline matter. In certain districts in India, for instance, where salt as an article of diet is more or less of a luxury, acid calculi are extremely frequent; and among the children of the working classes in this country, the use of food stuffs poor in mineral constituents, may account for the preponderance of calculi among them as compared with the children of parents higher up in the social scale. So far as India is concerned, the lack of salt as a codiment is enhanced by the marked poverty of rice in mineral constituents. It is not denied that the nitrogenous quality of the diet does influence the production of uric acid, but, as we have already pointed out, this is of secondary importance, because meat contains a large proportion of salts, the effect of which is to tend to keep the acid in solution. The well-known immunity of sailors from calculous affections, notwithstanding a dietary rich in nitrogenous matter, is presumably due to the large proportion of saline materials contained in the salted meat at their disposal. There is a popular idea that the ingestion of sugar is associated with a hyper-production of uric acid, but neither clinical observation nor experiment at all confirms this view. That the nitrogenous constituents of the dietary are not alone, or even principally, concerned in the formation of the acid, is evidenced by the fact that the proportion of the acid in the urine of carnivorous animals, is a thousand times less than that in the urine of certain small birds and insects which feed exclusively on articles drawn from the vegetable kingdom. The practical outcome of these researches, which we have merely outlined, is, as stated by Sir Alfred Garrod, that the great object in the preventive and curative treatment is, to correct the conditions which bring about the changes in the urates which lead to the deposition of the insoluble acid. This fact may prove the *point de depart* of an improved method of dealing with a very obstinate and painful pathological condition, and it almost justifies the hope that at some time in the near future the physician may be enabled to forestall the surgeon, and by rendering the formation of this class of concretion a rare event, to dispense with the skill and ability in this particular department, with which the name of Sir Henry Thompson has for so many years been honorably associated.—*Medical Press and Circular.*

TREATMENT OF COLDS.—In the New York Medical Journal, March 1st, 1890, Dr. C. H. Stowell, of Washington, has an interesting article in which he recommends the following line of treatment: If the patient is seen early in the attack, he should have at once a hot foot-bath and a bowl of hot lemonade. He should then be placed in bed, and covered with blankets until copious perspiration is produced. If seen at a later stage, and the fever

seems excessive and the whole system affected, then there are two marked remedies at our command—aconite and belladonna. The tincture of aconite is best given in small doses, half a drop once every half-hour for a few hours, until its physiological action is apparent. If the discharge from the nose be thin, or if the throat be involved, then small and frequently repeated doses of the tincture of belladonna will give marked relief. A brisk cathartic is often indicated and generally very desirable.

In the beginning of the attack, the nasal mucous membrane is likely to be dry and swollen, giving the sensation of the presence of a foreign body, causing sneezing and a sense of fullness. In this early stage the abortive treatment, already alluded to, can be relied upon if local treatment be combined with it. Cocaine and analgesin are almost specific for this trouble. They can be used as a spray in the strength of one per cent. of the former with four per cent. of the latter, thus:

℞ Cocaine hydrochlor., grains ivss.
Analgesin, grains xviij.
Sodii bicarb., grains v.
Aquæ, fl ʒ j.

M. Sig.: Nasal spray.

This should be sprayed thoroughly into the nares. The swollen membranes soon retract, and nasal respiration is free and easy. The spray should be repeated as often as the nares become occluded. If any nasal symptoms remain after the first twenty-four or thirty-six hours, it is better to substitute a spray with an oil for its base. Thus:

℞ Cocaine hydrochlor., gr. ix;
Aquæ, f ʒ ss;
ft. solutio et adde
Olei petrolei, ʒ j;
Olei eucalypti, gtt. vj;
Olei gaultheriæ, gtt. iij.

M. Sig.—Nasal spray. Shake thoroughly before using.

This spray can be used morning and night for a few days only, or until the acute catarrhal symptoms have disappeared.

As atomizers cost money, and as they cannot be carried about readily, a powder may be substituted for both the above. Thus:

℞ Sodii bicarb., gr. ij;
Magnesiæ carb. (levis), gr. iij;
Menthol, gr. j;
Cocaine hydrochlor., gr. iv;
Sacch. lactis, ʒ jss.

M. Sig.—Use as snuff.

The most marked relief will follow the use of this powder, and a few applications will do much to abort the catarrhal attack. Its effects are immediate, highly agreeable to the patient, and continuous for a number of hours.

In the case of young children, where a powder or spray cannot be used to advantage, an ointment can be substituted. Thus:

℞ Cocaine hydrochlorate, gr. ix;
Anhydrated lard, } ää ʒ ss.
Vaselin, }

M. Sig.—Ointment for the nose.

A small amount of this can be placed on the end of a feather and inserted into the nose.

A word concerning any objection that may be urged as to the use of cocaine in this manner: 1. The amount prescribed in each case is small; especially is this true of the powder. The prescription given above will last the writer for days—in fact, his acute catarrh will disappear before all the powder is used. 2. Neither the sprays nor the powder should be continued after the first few days of the attack. 3. They should not be prescribed for chronic catarrhal affections; for while it is true they give great relief in chronic hypertrophic conditions, yet the relief is but temporary, and their constant use may give most undesirable effects. 4. The physician should dispense his own powder, giving not over a drachm to each patient. If possible, he should dispense the sprays as well. By so doing he will retain the power to prevent any overuse or misuse of the drug.—*Med. and Surg. Reporter*, April 12th, '90.

Treatment of Catarrh of the Stomach.—Dr. Robert Saundby, in Provincial Medical Journal, thus comments on the treatment of gastric catarrh:

As to acute catarrh of the stomach, the rational treatment is to put no food in it. Let it rest. If food must be taken, it should be milk and lime-water in small quantities, or, better still, peptonized milk. If this restricted diet is not acceptable, or the case not sufficiently severe to demand it, the following may be permitted for two days:

Breakfast.—A cup of cocoa, not to be drunk while hot, or bread and milk. A little boiled fish or a poached egg, with one small slice of toast.

Luncheon.—A cupful of peptonized food, or a custard pudding.

Dinner.—A little boiled fowl or a stewed sweetbread, with toast; no vegetables. A milk pudding. No beer, wine, or spirits. Aërated water, if preferred. Fluids to be taken in small quantities. In addition, order the following powders:

℞ Hydrarg. subchlor., grains ij.
Sacch. alb., grains v.
f. pulv. mitte ij.

Sig. One to be taken at bedtime.

℞ Bismuthi carb., grains x.
Sodii bicarb., grains x.
Pulv. rhei., grains iij.
Pulv. cinnam. co., grains v.
f. pulv. mitte vi.

Sig. One to be taken in milk before each meal.

If there is much pain, a mustard leaf to be applied over the seat thereof.

In chronic catarrh associated with cardiac disease or bronchitis, relief depends upon removal of the venous congestion. Purging and digitalis may do good; but such cases are very intractable. Anæmia calls for iron, preferably the saccharated carbonate in doses of half-a-drachm three times a day, or three Blaud's pills thrice a day. All sufferers from chronic catarrh of the stomach must be rigidly dieted. Three meals to be allowed daily at fixed hours; breakfast 8 to 9, luncheon 1 to 2, and din

from 7 to 8. On rising, the patient to sip from five to six ounces of quite hot water, with or without a teaspoonful of Carlsbad salts, as may be necessary. This will wash the stomach clean of decomposing mucous. If there is much nausea, an emetic of sulphate of zinc (half-a-drachm) may be given the first morning.

The diet to be as follows:

Breakfast.—If the stomach is very irritable, no hot drinks, such as tea, coffee or cocoa, should be allowed, but a cup of cold milk and water substituted. Afterwards cocoa or chocolate may be taken, with very little sugar. Boiled fish, boiled or poached eggs, or a little smoked or salted ham, may be eaten with two small slices of dry toast, but fats should be taken very sparingly. No fruit or vegetables or sweets should be allowed.

Luncheon.—Two arrowroot biscuits, or small slices of toast; oysters (with lemon juice, not vinegar); a mutton chop; a slice of cold meat, fowl or game (not high); milk pudding; aërated water.

Dinner.—No soup. Boiled white fish; stewed sweet-breads, tripe, cowheel, calf's feet or head; lightly cooked beef or mutton, roast or boiled; fowl or game; no pork or veal; no vegetables except a little well-cooked potato; milk or custard pudding, jelly, isinglass *blanc mange;* no fruit or pastry; no cheese. No beer or spirits. Aërated water is the best drink. A glass of claret, with aërated water, or a glass of dry champagne, is permissible—no other wine.

By way of medicine the bismuth and rhubarb powder, as above, should be taken before meals if there is pain or irritability. When the symptoms point to sluggish digestion, fullness and weight after meals, ten drops of dilute hydrochloric acid may be given in a wineglassful of water an hour after each meal, or the following mixture:

℞ Acidi hydrochlor. dil., ʒ ij.
Acidi hydrocyan. dil., ʒ j.
Liq. strychninæ, ʒ j.
Glycerini, ʒ ss.
Aquam, ad ʒ vi.

Sig. A tablespoonful in water an hour after each meal.

When there is diarrhœa from associated intestinal catarrh, the continued use of small doses of liq. arsenicalis is often of striking benefit. In very obstinate cases, Dr. Saundby recommends a course of treatment at Carlsbad.

THE TREATMENT OF GONORRHŒA BY SALOL.—I have for some time past been prescribing salol in the out-patient department of the London Lock Hospital, and am now enabled to give the results of its administration in fifty cases of gonorrhœa. I have tested the value of the drug in urethral discharges at all stages, in some cases relying solely upon its use, in others employing an astringent injection in addition. An analysis of the fifty cases shows that six were cured, twenty-four showed considerable improvement, in fifteen cases no change either for better or worse was noticed, while in five cases the symptoms were aggravated. The doses used were from five up to thirty grains, taken three times daily. The beneficial effects of salol manifest themselves in a very short time. When improvement takes place, the symptoms show an abatement in from two to seven days; in acute cases the painful micturition is early alleviated; in cases of a more chronic nature the discharge is materially lessened in this time. In ten cases an injection was employed in conjunction with salol; this was when I commenced my trial of the drug, which I gave at first in five-grain doses. I subsequently increased the dose to ten, twenty, and in a few cases to thirty grains, and relied upon its internal administration without the assistance of injections; out of forty cases so treated, an improvement was noticed in twenty within a week, while six were completely cured. Salol is not a mechanical mixture of carbolic and salicylic acids, but appears to be a compound of the nature of an ethereal salt, since phenol can, with some slight difficulty, be obtained from it on saponification. The potassium salt left after the treatment of salol with caustic potash gives, with hydrochloric acid, an acid which is either salicylic or one of its isomers. Four hours after administration by the mouth of twenty grains of salol, traces of carbolic and distinct evidence of salicylic acids, combined with other elements, were found in the urine. In one case the urine was blackened as in carboluria, the patient at that time taking thirty grains three times a day. It is by the action of the pancreatic juice that salol is said to be split up into carbolic and salicylic acids; of this change I was unable to procure any sufficient evidence after having added pancreatin to a mixture of salol. In salol we have, in my opinion, an addition of considerable value to our list of remedies for gonorrhœa; its effect is apparently produced by the action of urine upon the inflamed urethra, since that fluid contains salicylate and carbolic acids in combination, probably as salicylurates and sulphocarbolates. It may be given in doses of from ten to twenty grains three times daily at any stage of the disease, and in chronic cases an astringent injection will materially hasten the cure. The effect of the drug does not appear to be enhanced by larger doses than twenty grains; when the amount was increased to thirty grains, the urine became blackened and the symptoms did not show any proportionate improvement. I commenced by giving five-grain doses, but this was soon discovered to be too small a quantity, and my results would, I doubt not, have been more favorable had I commenced its administration with a freer hand. I am indebted to Mr. R. J. Carter, house surgeon to the Male Lock Hospital, for his careful investigation into the chemical properties of the drug, and for notes of the progress of the cases so treated. —J. Ernest Lane, F. R. C. S., in London *Lancet.*

HYPODERMATIC TREATMENT OF ASTHMA WITH STRYCHNINE AND ATROPINE.—Asthma is essentially a spasmodic neurosis of the pneumogastric nerves. Its characteristic symptoms are: Its sudden onset and subsidence; its proneness to recur during the night; the sense of oppression in the chest; the short, dry, wheezy cough; the marked dyspnœa; the fear of moving on the part of the patient; his utter misery; and his complete transformation into apparent robust health as soon as the attack is over. The paroxysms may be rare at first, but tend to

appear more frequently and to last longer, until finally there is no complete intermission between them.

The exciting causes of asthma either reside in, or outside of, the lungs. Dust, or any other offending materials suspended in the air, which on being inhaled produce irritation in the sensitive nerve-endings of the bronchial mucous membrane, is among the most common causes. The causes outside of the lung may reside in the nose, stomach, liver, intestines, uterus, etc., or some specific cachexia. It is noteworthy, that disorders of all the organs which are supplied by branches of the pneumogastric nerves, are most liable to excite an attack. It is doubtful, however, whether without the peculiar predisposition, any degree of disorder in any or all of these organs would have the power of exciting an attack.

The aim of treatment is, (1) to alleviate the attack, and (2) to prevent its recurrence. To accomplish the former, atropine, morphine, lobelia, stramonium, chloral, chloroform, nitroglycerin, nitrites, pilocarpine, etc., have been used; and for that of the latter, various measures have been employed for the purpose of breaking up the abnormal casual connection which exists between other organs and asthma. It must not be forgotten, however, that a general lowering of the nerve tone of the body, is often as much the cause of disease in other organs as of asthma, and hence, by invigorating the nervous system, the asthma, as well as its concomitants, disappears.

The possibility that strychnine given hypodermatically might be of value in treating asthma, was first suggested to me by the good results which were obtained by Dr. Echeverria in the treatment of epilepsy by this alkaloid. Asthma is closely allied to the latter disease, and that which benefits the one should benefit the other, at least on theoretical grounds. I have been using it daily in treating asthma during the last six months, and I believe, with more prompt and more definite results than can be obtained from any other drug. My earlier cases were all treated with strychnine alone, but from a varied experience, I apprehend the addition of atropine enhances its action somewhat, at least in old and stubborn cases. Three cases were treated with strychnine alone, and the last three with the addition of atropine. I began with one-fiftieth of a grain of strychnine and one one-hundred-and-fiftieth of a grain of atropine daily, gradually increasing the former to one-twentieth or one-twenty-fifth of a grain, and the latter to one one-hundredth of a grain. After a thorough impression is made on the disease, the drugs are administered every other day, and, as the patient improves, gradually abandoned. While some cases get well under this treatment alone, necessity in others demands that the influence of these agents be fortified by efforts which seek to control the causes of the attack, as well as by measures which build up and fortify the general system.—Thomas J. Mays, M. D., in Boston *Med. and Surg. Jour.*

Treatment of Chronic Rheumatic Sore Throat.—In treating these cases, our first attention should be directed to prophylaxis. With this in view, we must be careful that the patient is well clothed and housed, and that he is not exposed to undue changes of temperature, or to wet or damp atmosphere. Rheumatic patients should always wear wool or silk next to the body throughout the whole year, light in summer and heavy in winter, and it should be worn both night and day. They should be careful that all the excretory organs of the body perform their functions properly. They should eat sparingly of such albuminous substances as meat or eggs, and should live largely on vegetables or fruit. The vegetable acids are often advantageous. Whatever is eaten, it is especially important that digestion be perfectly performed so that the system be not poisoned by the formation of ptomaines.

For the local treatment of the disease, sedative or stimulant applications may be made with almost equal chances of relief. Applications of the tincture of aconite to the painful spot, four or five times a day, will sometimes give considerable relief. I have frequently found relief from the application of stimulants, as, for example, solutions of sulphate of zinc. The application of morphine in solution or in powder is sometimes a source of much comfort to the patient. I have derived more benefit, I think, from the application of a spray composed of 4 grains morphine, 30 grains each of carbolic and tannic acids, and 4 drachms each of glycerin and water, than anything else. I apply it in full strength, and frequently give it to the patient to use in a solution of half this strength. In some cases the strong tincture of iodine gives relief; in others the application of a 60 grain solution of nitrate of silver has proved beneficial. These applications do good on the same principle that blisters sometimes relieve a rheumatic joint. The most important part of the treatment is the internal medication. For this purpose salol, the salicylate of sodium, iodide of potassium, guaiac, phytolacca, and the oil of gaultheria may, one or all, be used at different times with benefit. The salicylate of sodium in doses of 7½ to 10 grains four or five times a day; the oil of gaultheria in doses of 15 minims three or four times a day; the ammoniated tincture of guaiac in doses of a teaspoonful three or four times a day, or the resin of guaiac in lozenges frequently repeated, are of considerable value. But I have derived the most benefit from the extract of phytolacca and salol, combined with a laxative, and sometimes with the iodide of potassium, or with the bromide of potassium for its sedative effects. I give the extract of phytolacca in doses of 2 to 4 grains, and salol in the same dose, or sometimes in doses of 10 grains. Tincture of bryonia and of cimicifuga have been claimed to be valuable remedies in the treatment of rheumatism. I have used them both, apparently with slight benefit in some instances, but the obstinate cases have done better under the phytolacca and salol, with the occasional use of the other remedies already suggested.

I have records of over fifty well-marked cases of this disease observed during the past four or five years, from which I deduced what I have said in this paper regarding the symptomatology, prognosis and treatment.—E. Fletcher Ingals in *Medical News.*

Disinfection of the Sick Room.—This procedure includes several steps which must always be taken in the following order:

1. Moisten the floor uniformly with water.
2. Carefully wipe the ceiling, the walls, or the hangings, with a cloth slightly dampened so as to remove the dust.
3. Furniture of small value, such as common chairs, etc., must be liberally treated with a sublimate solution (1-1000).

The inside of night chairs should always be so treated.

4. In the more important furniture, such as beds and hair mattresses, all the joints and crevices must be treated with the solution of sublimate as in the destruction of vermin; waxed and varnished surfaces must be wiped with a cloth impregnated with oil.
5. Upholstered chairs must be beaten, and then rubbed with a brush dipped in the sublimate solution.
6. The floor of the chamber, and the wainscotting and walls up to a height of six feet, must be washed and cleaned with brushes and sponges dipped in the sublimate solution.
7. Not later than two hours afterwards, a second liberal washing must be given with sponges, dipped this time in an alkaline solution (water 100 grammes, carbonate or crystals of commercial soda 10 grammes). At the same time the less valuable furniture which has previously been treated with the sublimate solution, must now be well washed with the alkaline solution.
8. The excesses of the solution must be mopped up, the room well ventilated so as to dry the walls and floor as quickly as possible.

The preceding measures ought to insure sufficient security.

In case, however, the rooms to be disinfected can be dispensed with for forty-eight hours, it is well to complete the disinfection by fumigation with sulphurous acid.

For this purpose, before drying the room, an iron vessel is placed in the middle of the floor; into this is placed flowers of sulphur in the proportion of 15 to 20 grammes per cubic metre of the space to be disinfected. To avoid danger of fire, the vessel containing the sulphur should be placed in a large receptacle containing 5 or 6 centimetres of water. The chimney is then stopped, and strips of paper are pasted over all cracks where the vapor might escape. Metallic objects which can not be removed are covered with grease. Alcohol is then poured upon the sulphur and ignited. The door of the apartment is then closed, and the crevices covered with strips of paper. Sulphurous acid gas is evolved, and should be confined for twelve hours at least. The next day the room is well aired. It may be reoccupied as soon as the gas, which generally provokes irritation of the eyes and throat, is no longer noticed—this will generally be in twenty-four hours after the windows have been opened.

Finally, when possible, it will be advisable to repaper or repaint the walls as the case may be.—*Trained Nurse*, Feb., 1890.

The Therapeutic Action on Peru Balsam.—Considerable confusion has, for some time, existed as to the exact therapeutical action of Peru balsam, and it has been believed by many authorities that when given internally in large doses, it caused gastric catarrh and inflammation of all mucous membranes. The importance of the question as to whether this was well founded, is of course considerable, in view of the recently extended application of Peru balsam internally as an anti-tuberculotic; and, in consequence of the doubt which existed about it, the suggestion was made that the drug should be substituted by a factitious mixture of its active constituents, cinnameïn and cinnamic acid; the former, directly obtained from the balsam, was actually introduced into commerce under the name of "Oil of Peru Balsam."

Feeling, however, that the definite solution of the problem was highly desirable, Drs. Bräutigam and Nowack, undertook a systematic clinical investigation of the therapeutics of the drug, in the town hospital of Dresden.

They administered it in 22 slight cases; and, as the production of nephritis was specially laid to the charge of the balsam, they examined the urine of the patients almost daily, carefully noting its color, smell, specific gravity, volume, and reaction, examining it chemically for albumen, and microscopically for other solid constituents.

The method of administration included, (*a*) by mouth as a 20 per cent. emulsion with oil, or as pills made with wax (later with magnesia usta); (*b*) subcutaneously, using one grain of a 20 per cent. emulsion without oil; (*c*) externally by vigorous embrocation into the skin. Naturally, it was primarily important to decide whether the drug was even absorbed into the system; that this was the case, was evidenced by the strongly acid character of the urine, due to the increased excretion of hippuric acid.

The results of the authors' experiments, in no way supported the statements relative to the irritating action of the drug. Within eleven days 53.8 grammes (nearly 2 ozs. Av.), and 80 grammes (nearly 3 ozs. Av.) within twenty-four days, were taken without any appreciable effect (except the increased urinary acidity); the volume of the urine remained normal, and in color no deepening occurred. The most balsam given in one day was about 11 grammes ($2\frac{4}{5}$ drachms).

These results show that the therapeutical action of Peru balsam is in no way comparable to that of copaiba, storax, etc.—a fact which the authors explain by reference to the difference in the proportion of essential oil; while copaiba contains 18 to 80 per cent. of the latter, genuine Peru balsam is almost quite destitute of such constituents, consisting almost entirely of cinnameïn, cinnamic acid, and resin. Since, however, it is not infrequently sophisticated by the addition of essential oils, it is not difficult to assign a cause for its supposed inflammatory action.—*Provincial Med. Jour.*

Concentrated Enemata of Epsom Salts.—Some time ago Dr. Mathew Hay made a series of experiments upon the use of concentrated solutions of magnesium sulphate given by the mouth. He found that they rapidly drew water from the blood into the intestines. Thus, the bowels having been well emptied, he gave three quarters of an ounce of salt, and in half an hour (the time of greatest concentration) obtained an increase from 5,000,000 to 6,790,000 blood-corpuscles; that is, of 1,790,000 to the cubic millimetre. The increase was not obtained if the alimentary canal was not emptied, or if a diluted solution was used. He

attributed the concentration to the action of the salt in depriving the tissues of water.

The experiments of Moreau and Lauder Brunton have also shown that magnesium sulphate has the power of producing copious exudation into the intestines, and that its cathartic action results from this and not from any direct stimulus to peristalsis. Acting upon these observed facts, Dr. T. J. Watkins, of Chicago (Maryland Medical Journal), began the use of concentrated solutions of magnesium sulphate in the form of enemata. He employed at first a mixture of two ounces of the sulphate and four ounces of water. For more than a year this solution was used by Dr. Watkins at the Woman's Hospital of Chicago, and with excellent results. He finds it indicated, not only in constipation, but in serious intestinal obstruction when there is much nausea and vomiting; and after laparotomy, when sepsis and peritonitis threaten to develop. In conditions of acute and chronic pelvic inflammation, the very great watery depletion caused by the injections produces favorable effects. In obstructive dysmenorrhœa it may also be used.

Dr. Watkins says the advantages of this enema are:

1. Its action is local, producing diffusion.
2. Its action is free and seldom fails.
3. Time of action is short.
4. The bulk is small, causing but very little, if any, discomfort.
5. It is as unirritating as a simple enema. Its certainty of action has become so well recognized in the New York Woman's Hospital, that it has been used in nearly all the operative cases as the cathartic preparatory to operation, for the last six months.

The following formula is the one now used:

℞ Magns. sulph., ℥ iij.
Glycerinæ ℥ j.
Aquæ, q. s. ad. ℥ iv.
M.

—*Phila. Med. News.*

Iodoform in Chronic Cystitis.—Dr. H. O. Marcy, in College and Clinical Record, says:

I began its use about five years ago, and continue it with great satisfaction. There can be little doubt that the large mucous glands at the base of the bladder become the seat of the infection, and it is almost impossible to cleanse them by injections, even when kept up as an irrigation, which method I have long advocated as the best. The weight of the iodoform causes it to settle to the base of the organ, and its slow solution gives a constant antiseptic medication of the parts. Its use, attested in constant experience, is of the greatest value—safe, simple, satisfactory.

In a paper on "Cystitis in the Female," read before the Section on Obstetrics and Gynæcology, at the annual meeting of the American Medical Association, June, 1887, I stated that "the bladder tolerates iodoform well, and the treatment is finished by injecting a few grains in suspension, which is allowed to remain. This soon settles to the base of the bladder and is not easily expelled. It dissolves less readily in the bladder than in most parts of the body. I examined recently a specimen of urine voided at will, which contained a large amount of iodoform. In reply to my inquires, I found the patient, a man, had for some time taken a teaspoonful of iodoform in suspension as an injection daily, without inconvenience."

I have in one instance—a male—known of the iodoform being used in teaspoonful doses daily for some time. The urine had been sent to me for examination, and the large quantity of yellow deposit first attracted attention. I advised limiting to five grains, and yet, upon inquiry, learned the only inconvenience experienced was a slight irritability felt in the urethra on micturition. The explanation is doubtless the extremely slow solution of the iodoform in urine. Its benefit is the continuous effect in a mild way—especially upon enlarged glands at the base of the bladder, the common seat in that organ of bacterial reproduction. In a general way, I believe the great value of iodoform as a surgical dressing, lies in its extremely slow solubility, and that iodoform poisoning is far less common than generally supposed. The danger now lies in this very valuable agent being discarded on this account, the medical press repeating the statement that germs will grow in dry idoform, without comment. This is, of course, true, but equally so of *dry* bichloride of mercury, the most powerful of all germicides. All the preparations used for this purpose, to be of any value, must, of necessity be in solution.

Treatment of Dysentery by Enemata of Corrosive Sublimate, Etc.—It is now generally recognized that certain morbid conditions of the intestinal tract may be favorably modified by various drugs belonging to the class of antiseptics, among which the chief are calomel, bismuth, naphthalin, and thymol. It is a noteworthy fact that these substances are insoluble, and it is in virtue of this property that they are enabled to run the gauntlet of the absorbents and exert their specific action upon the intestinal contents. The best of all antiseptics—corrosive sublimate—has thus far been of little use for the purpose mentioned, because it was supposed that no benefit could be exerted by any but a lethal dose. While this may be true of its administration *per os*, it is shown by G. Lemoine (*Bulletin général de Thérapeutique*, January, 1890) to be a mistake so far as concerns administration *per rectum*.

Lemoine has treated fifty-four cases of dysentery by enemata of corrosive sublimate and with the happiest results. The strength of the solution was one to five thousand, of which, two hundred grammes were at first administered three times a day; later, two hundred grammes of a solution of one to three thousand were injected twice daily. Improvement showed itself, as a rule, after the first injection, the first symptoms to disappear being the tormina and tenesmus. In a certain number of cases the tenesmus was so great that the enema could not be administered without a preliminary treatment, which consisted in painting the sphincter with a 5 per cent. solution of cocaine.

In the acute cases, a cure resulted from this treatment in from three to four days; whereas, in the more chronic cases which presented themselves for treatment on account of an acute exacerbation, a cure was effected, as a

rule, in one day. The latter statement is somewhat startling in view of the well-known fact that chronic dysentery is decidedly rebellious to all the usual modes of treatment.—*Med. News*, Mar. 29, 1889.

ERYSIPELAS AS A REMEDY FOR DIPHTHERIA.—A Russian practitioner has recently published the results of some very original and bold experiments which he has carried out on a method of treating diphtheria. His son had the misfortune to contract diphtheria in a very serious form, and his death appeared imminent. At this critical moment erysipelas declared itself, and, contrary to their expectations, instead of giving the prostrated patient his *coup de grâce*, the appearance of the erysipelatous eruption was followed in the course of a few hours by a marked and persistent improvement in the condition, and the patient shortly afterwards became convalescent. This observation impressed the father, and induced him to inoculate his next bad case of diphtheria with the virus of erysipelas. He did this, as he admits, with fear and trembling, but the result was so successful that he did not hesitate subsequently to resort to the plan on a comparatively large scale. In the course of a few months he inoculated no less than fourteen persons, suffering from diphtheria, with a cultivation of the microbe of erysipelas. Twelve of these were saved, and in the two fatal cases the inoculations had failed, so that the author professes to have derived as much confirmation and encouragement from these two cases as failures, as from the twelve successful cases. His last feat was on five out of six children belonging to the same family, all of whom had contracted diphtheria. All the inoculated infants escaped, the only fatal case being the one who was not treated in the same way. This is not one of those methods of treatment of which it may be said that if they do no good they can do no harm, and few medical men would hasten to have recourse to such heroic measures even on the authority of an unknown Russian practitioner. It should be noted, that in all the cases the inoculation only gave rise to moderate symptoms, and in no case did the erysipelas give rise to any anxiety. Possibly, however, our Russian confrères are not so accessible to "anxiety" as our less apathetic selves.—*Med. Press and Circular*.

NATURE AND TREATMENT OF RED NOSE.—Although Red Nose is not a disease in the usual sense of the word, it is nevertheless an affection mostly very unpleasant to the patient, it being a cutaneous disorder caused by vascular enlargement, flourishing mostly in winter. In literary periodicals the question (addressed to the "Medical Editor") what the best remedies are against the red nose, is a permanent heading in the paper, and even in professional medical publications the same question may be seen occasionally making its appearance. It may be, therefore, of some interest to our readers to know what the dermatologist Unna says about the red nose. He answers a question on this subject in the Therapeutische Monatshefte in the following way: In one fifth of the cases the red nose is really caused by rosacea (vascular enlargement); in most cases it is caused by seborrhœa in the hairy parts of the head, and this seborrhœa has to be attacked first with the usual remedies. In cases where rosacea is the cause, Unna gives ½ gramme ichthyol internally, and at the same time externally in aqueous solution (at night) or he prescribes nightly application of the following sulphur-zinc paste:

℞ Ung. zinci, 20 grammes.
Amyli oryzæ, 5 grammes.
Sulphuris, 2 grammes.
Misc. f. past.

Later on, Unna gets the enlarged venous trunks punctured with Hebra's instrument, two to three times per week, the little wounds to be immediately covered with humid wadding.

For very mild cases and for supplementary treatment, repeated washing with ichthyol-soap is recommended, warm water only to be used, as in all cases of rosacea.—*Pharmaceutische Post—Pac. Record of Med. and Surg.*, March 15th.

CONTRIBUTION TO THE KNOWLEDGE OF BERBERIS AQUIFOLIUM:*

1. The root of *Berberis aquifolium*, Nutt., as also the root of *Berberis vulgaris*, contains the following alkaloids:
   1. Oxyacanthin.
   2. Berbamin.
   3. Berberin.

In the root of berberis aquifolium, phytosterin is also to be found.

For the oxyacanthin as well as for the berbamin, the same formula, $C^{18}H^{19}NO^3$, may be given, but they are not identical.

The aceton-berberin is the most appropriate combination for producing a perfectly pure berberin, devoid of sulphuric acid. It is most advantageous for the preparation of the free base.

The berberin yields with ethylen chloride a hydrochlorate of berberin—with ethylen bromide a hydrobromate of berberin—with ethyl iodide, however, an addition product.

The berberin is a tertiary base.

The berberin contains $5\frac{1}{2}$ molecules of water of crystallization.

Prepared according to the method of Schreiber, on drying berberin loses in a current of hydrogen at 100° C., all its water of crystallization; that prepared by the method of Gaze, loses only 3 molecules, thus retaining $2\frac{1}{2}$ molecules.

The berberin forms no constant combination with carbonic acid, but only exercises a very great attraction for carbonic acid.

The berberin sulphate, as also the pure berberin, yields combinations with sulphate of ammonia, which at once decompose on exposure to the air, and are therefore very difficult of characterization.

*Inaugural dissertation by Dr. Chas. Frederic Stubbe, Hamburg.

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Original Articles.

THE ACTION OF CAFFEINE ON THE MOTOR AND RESPIRATORY FUNCTIONS IN THE NORMAL STATE, AND IN INANITION.

BY MM. GERMAIN SEE AND LAPICQUE.

History.—Travellers have long given astonishing accounts of the stimulating properties of certain vegetable productions of which primitive populations make use as helps to the accomplishment of painful tasks when suitable supplies of nourishment cannot be obtained. In all parts of the world, we find some one of those marvellous plants which enable the negro or the Indian to make long marches without provisions, through immense, cheerless deserts; in South America, the coca, the maté, the guarana; in Africa, the kola nut; in Asia, tea and coffee. Europeans have naturally sought to verify and utilize the precious qualities of these natural products, and tea and coffee have come into common use among all civilized nations, being sought for especially as stimulants of the intellect; and many recent experiments show what service they can render in facilitating muscular work.

Now it is a notable fact, as the labors of chemists have shown, that almost all these substances, with the exception of coca and a few others, contain the same alkaloid, viz., caffeine. It is, then, to the study of the physiological properties of this alkaloid that we must look for the explanation of those singular phenomena which attend the use of these substances.

Many physiologists have already attacked the question, and the facts that have accumulated are numerous. But hitherto not much light has been shed on the intimate mechanism of the motor properties of caffeine; on all sides we find contradictions. According to some, the specific action of the poison is manifested on the muscles; according to others, on the nervous system exclusively. All the products characterized by the presence of caffeine have been denominated waste-restraining aliments (*aliments d' épargne*). This notion has remained vague, and researches have not clearly indicated the slowing of the nutritive processes which it was expected to find. It seemed to us, then, that at a time when endeavors were being made to utilize in the army the properties of caffeine, it was important to undertake again the study of this substance, and to define with some precision its mode of action on the functions of motricity.

First of all, before explaining the facts, we must be sure of their reality. Now this does not seem to be a matter of doubt. Besides the accounts of travellers, (which are too concordant to warrant the supposition they are inaccurate,) we have recent experiments which are sufficiently demonstrative. We will cite only the following fact:

One of us has been able on several occasions to go forty hours without food, and during this fast to perform a whole day's march without fatigue, simply by consuming a few little cakes of kola nuts. These cakes are such as Professor Heckel, of Marseilles, has successfully experimented with in the army.

From all the experiments thus made, *grosso modo*, on man, it results very clearly that caffeine, and the vegetable compounds containing it, possesses the two following properties:

1. To greatly facilitate muscular work and enable one to continue at work a long time without fatigue.

2. To enable one to go without food for a variable length of time, even if he has considerable work to perform.

We will now see how physiology explains this action, and will divide our task into two parts, because, in fact, the question presents itself in two distinct forms:

a. How does caffeine facilitate muscular work?

b. How does it enable one to work without effort during fasting?

We need not speak here of the other medicinal properties of caffeine, except as far as these actions directly concern its influence on the motor functions in general.

HOW CAFFEINE FACILITATES MUSCULAR WORK.

We will first of all state our conclusions, and then justify them by our experiments and by criticism of the labors of our predecessors.

(1) *Caffeine augments the activity of the motor part of the nervous system, medullary and cerebral.*

(2) *Caffeine prevents the breathlessness and palpitations consecutive to violent work.*

1. "*Caffeine augments the activity of the nervous system.*" This excitation of the functions of motricity has been noticed ever since the action of caffeine has been studied. The

first observers, in their experiments on man, were in accord in their conclusions respecting a nervous excitation. Then came the graphic method; physiologists attempted to enter more deeply into the analysis of the phenomena by means of myography, and thenceforth uncertainties and contradictions began. It is because, in fact, the frogs employed in the experiments of myography present reactions irreconcilable with each other, in appearance at least. Vulpian pointed out this fact as early as 1864. Schmiedeberg showed that the red frog (*Rana temporaria*) and the green frog (*Rana esculenta*) behave quite differently under caffeine poisoning. The green frogs present in the clearest manner an excitation of the spinal marrow manifesting itself by convulsions similar to those caused by strychnine; hence the experimentors who employed green frogs rightly concluded that the action of caffeine was spent on the nerve-centres. The red frogs were taken with contractures progressively supervening without convulsions; the muscles became completely inexcitable, whether directly or by the intermediation of the nerves; therefore the experimentors who employed red frogs concluded with no less certainty that caffeine was a muscular poison.

The explanation of Schmiedeberg has not been admitted by the physiologists who have come after him. Leblond, in some experiments made in common with Mendelsohn, disputes the specific difference in the action of caffeine in red frogs and in green frogs. Without denying the action on the medullary nerve centres, quite evident in the case of convulsions, he puts the action on the muscles foremost. He remarks, in fact, that even in frogs that have convulsions, the curve of the muscular contraction changes, which demonstrates, he thinks, a peripheral action.

We have repeated these myographic experiments, and these are the results obtained:

The difference noted by Schmiedeberg between green frogs and red frogs is constant, and is remarked by all observers; in a long series of comparative experiments, we have never found an exception. In the experiments of M. Leblond, if examined with care, we note this difference very well, though it is not, however, special to caffeine, but obtains as well with brucine and veratriin.

Having, then, verified the fact that caffeine produces in red frogs muscular contractures (which are certainly of peripheral origin, as the section of the nerves and the destruction of the spinal cord in no way alters the result), and in green frogs a violent excitation of the spinal marrow, we inquired which of these two reactions would be likely to be presented by man. *A priori*, it seemed probable that it would be the nervous mode; in fact, these muscular contractures of the red frog can only produce total immobility by a cadaveric rigidity which does not at all explain the facility of movements (so commonly noted) in mammals. In the latter, moreover, it is easy to produce convulsions by caffeine; even among the lower vertebrates, the case of the red frog is an isolated one. The toad and the tortoise, as we know by several experiments, clearly manifest a hyperexcitability of the cord when they have taken caffeine.

There remains now to consider the modification of the form of the muscular contraction, a modification characterized by a lengthening of the period of de-contraction. We have very plainly observed it in the green frogs, and we have also seen it in the toad. This modification, by the way, is not due primarily to a muscular excitation, but is entirely of central origin, as we can prove by the following experiments:

If we separate the sciatic nerve from the cord, at the moment when its excitation determines in the corresponding gastrocnemius the curve characteristic of caffeine poisoning, the curve immediately returns to the normal type. If, on the other hand, we ligature *en masse* one of the posterior members, the sciatic nerve being excepted, so as to preserve the gastrocnemius of that side from invasion by the poison, we none the less obtain in that muscle the characteristic curve at the same moment, and in the same manner, as in the muscle of the other limb to which the poison has been distributed by the circulation. It seems to us, then, that it is well demonstrated that the action of caffeine in these cases is exerted in its entirety on the central nervous system.

We do not, however, mean to affirm that caffeine is not a muscular poison; take, in fact, any kind of frog, whether green or red, and put caffeine directly in contact with the muscular substance, and energetic contracture results, and the muscle become inexcitable. We may also obtain total muscular rigidity in the green frog, and with more difficulty in the toad, by the injection of considerable doses of caffeine in any part of the body. But it seems to us that this mode of action ought practically to be ruled out. It is only obtained, in fact, with doses approaching one gramme per kilogramme of the bodily weight.

Besides the medullary excretion which attends its use, caffeine excites the cerebral motor centres. This conclusion is derived from our experiments on man, and from the analysis of cases of poisoning which have been described. We note, in fact, in the human subject when under the influence of this drug, agitation and involuntary impulses which demonstrate, so it seems to us, a hyper-activity of the psycho-motor region. This cerebral excitation, in general, is too well known to require that we should insist upon it. We may

say, however, *en passant*, that we have seen produced in an experiment especially devised for this end, a very marked cephalic vaso-dilatation in a dog weighing twelve kilogrammes, in which we had injected 25 centigrammes of caffeine. As a result of careful observation, then, we are warranted in establishing in reference to the action of caffeine on the motor functions, the following mechanism: *The motor voluntary influx starts from the cerebrum with a greater energy, and it acts on the motor spinal centres in a more excitable state.* The consequence of this double action is to diminish the sensation of *effort*, and to banish *fatigue*, which is a nervous and at the same time chemical phenomenon.

But this is not the only action which is manifested. Caffeine facilitates violent muscular labor by a quite different mechanism, which we were, we believe, the first to point out, and which must play an important rôle in the genesis of the sentiment of *bien être* which the drug produces.

2. *Caffeine prevents breathlessness and the palpitation consecutive to effort.*

We know, since the researches of Oppenheim, that prolonged and repeated efforts may determine a veritable *thirst* for air, a dyspnœa which in its turn augments the organic wastes, while by slow and moderate labor the elimination of urea remains normal.

The experiments which have demonstrated to us this dyspnœa, were made on men. We employed the graphic method which enabled us to appreciate with certainty not only the changes of rhythms, but also the changes of form presented by the respiration and pulse in the course of the experiments. The kind of work which we chose was running,—work which very rapidly brings about the circulatory and respiratory troubles which we desired to study, and in which it is easy to measure with sufficient approximation the intensity and quantity by keeping account of the space traveled and the time employed therein.

All our subjects also were young men, from 21 to 24 years of age, without any cardiac or pulmonary lesions or disturbances. The mean speed was 200 metres per minute, and we marked out for each individual a certain race-course which was constant, of such length that after having finished it the runner that had taken no caffeine began to be incommoded by the consecutive circulatory and respiratory troubles. The tracings were taken for the respiration by means of Marey's pneumograph; for the circulation, by means of two connected drums placed over the two carotids; and both series were begun one minute after the end of the running, this time being necessary for arranging the apparatus. The caffeine was administered in doses of 25 centigrammes in a cup of coffee, which made about 10 centigrammes more. The experiments began two hours after the ingestion of the caffeine, as we found at the very onset of experimentation that this period of time was necessary for the alkaloid to procure its physiological effect. In the first two hours which follow the ingestion, during what might be called the phase of invasion, the phenomena of regulation do not appear, and we note instead a tendency to breathlessness and palpitations.*

The action of caffeine observed in these conditions, in thirty experiments on six different subjects, has given us results which varied in their intensity, but whose significance has been constant. The pulse is much less accelerated; in several cases we found *one beat* more than before the running; while in the same individual without caffeine the same amount of running doubled the pulsations.

It was the same with the respiration, and even here the phenomenon was still more marked. It generally happens that running does not modify the respiratory rhythm in the individual who has taken caffeine, while without caffeine there is a breathlessness which triples the number of respirations.

The subjective state of the runners was naturally in direct proportion to their physiological state. After taking caffeine, it was the universal remark that nothing was felt of that painful oppression which is experienced when such violent exercise is taken without caffeine.

The conclusion which presents itself may be formulated thus: *Caffeine puts a man who has not gone through a course of training in the state of a man that has;* in other words, it communicates, so to speak, instantly, the *training* that is wanted. In a man that has undertaken a regular training, it adds its action to that of the training. We have, in fact, found, notably in the form of the respiration, modifications produced by caffeine similar to those which Marey has indicated as supervening under the influence of training. There is no need of insisting on the importance of these results.

Caffeine During Inanition.

The foregoing study has furnished a satisfactory explanation of the excito-motor properties of caffeine acting on a subject normally nourished. It is an over-activity of the motor system, an augmentation of the muscular tonus, which, joined to a regulating of the circulation and of the respiration, explains the considerable aptitude for physical work which attends the use of this substance. We have shown, principally in the analysis which we have made in frogs, that it is this nervous excitation which constitutes the essential phenomenon of caffeine poisoning. And now, to explain the aptitude for work which caffeine produces in the fasting individual, shall we have need to seek for an-

(See the excellent thesis of Parisot, March, 1889.)

other physiological property, or shall we be able, by the analysis of the facts, to bring the second phenomenon under the first as we would include a particular case under a general head? The accumulated facts, indeed, suffice for this study, on condition that we criticise them and interpret them properly—on condition, especially, that we start from a well determined basis, that is to say, from a suitable analysis of the conditions of muscular work, and their relations to the state of inanition.

The view which first sprang from facts, the nature of those which we relate in this work, was that of a tissue-saving action (*action d' epargne*) proper to caffeine. We found this opinion clearly expressed from the moment when the inquiry was first put. In 1850, M. de Gasparin made to the Academy of Sciences a communication which is still celebrated, in which he studied the dietary of the Belgian miners of Charleroi. The doctrines of Liebig were then in full blossom. M. de Gasparin, analyzing the daily ration of these miners, found there only fifteen grammes of nitrogen, and inquired how, with this feeble proportion of nitrogen, scarcely superior to that of the religious orders devoted to asceticism, these men could perform every day a considerable amount of labor. "The explanation," he says, "is found in the fact that the miners of Charleroi consume a great deal of coffee, and it is this coffee which enables them to consume less nitrogen. The analyses of Böeker show that the excretion of urea is diminished by coffee; this substance prevents denutrition, and consequently the daily needs are diminished." At the same session of the French Academy, the great physiologist, Magendie, made grave objections to this theory. "It is inexact," he said, "to believe that one can measure the alimentary value of a ration by the number of grammes of nitrogen which it contains. These miners consume daily, it is true, a feeble quantity of azotized substances, but with this they ingest a considerable quantity of ternary aliments. What right have we to say that it is not by means of these aliments that they work?"

Physiologists became divided into two camps, and the dispute continued as to whether or not coffee and caffeine have a saving action on the tissues. The greater part of the researches have pertained to the variations in the quantity of urea excreted daily, accordingly as the subject had or had not taken caffeine. Is this quantity augmented or diminished? On this there has been a wide divergence of views.*

A third series of experimentors, at the head of which we must place Voit (1860) denied to coffee any characteristic action on the excretion of nitrogen.

It is with this last opinion that we are obliged to side as the result of experiments. Our personal researches, in fact, although not very numerous, have given us from the point of view of the excretion of nitrogen, variations so wide apart that we have not been able to establish any rule; these researches pertained to dogs and men. The detailed, critical examination of the works which we have just cited, has led us to the same conclusion. It is not possible in fact, that the numerous experimentors who have found a diminution of urea, could have been all mistaken. We have not been able, in reviewing their experiments, to hit upon any constant source of error. On the other hand, the researches which point to an excess of urea, particularly those of Roux, of Fubini, and Ottolenghi, seem to us equally irreproachable. The conclusion, then, which forces itself upon us is the following:

"*Caffeine has no specific action on the excretion of urea; it modifies this excretion in different senses under the influence of unknown conditions.*"

Do we mean by the above that we have nothing to say as to the action which caffeine has on the exchanges? By no means. We find here, under another form, the objection which Magendie made to the theory of *tissue-saving*, when that theory was first broached. We may even to-day go farther. We now know well, since the famous experimentation of Fick and Wislicenus, and all the labors which have followed, that muscular work derives its force from the chemical energy, not of the albuminoids, but of the ternary compounds of the organism—fats, carbo-hydrates, and especially of the glycogen of the muscle itself, as Chauneau has shown. It is, then, this consumption which interests us most, particularly from one special point of view.

Here we find a satisfactory agreement in the experiments. Two methods have been employed; the one indirect, consisting in observing the variations of the temperature, the other direct, *i. e.*, by measuring the carbonic acid set free in respiration.

The first method seems to have given contradictory results, but these when critically studied, agree fairly well. We have in fact, two orders of observation: 1. On rectal temperatures taken in the dog: 2. On temperatures taken in the human subject.

The first indicate in a constant manner that caffeine raises the temperature. The very precise researches of Binz on this subject, seem to us particularly worthy of attention. He has seen caffeine raise the temperature more than one degree, and our personal researches fully confirm this result. On the other hand, the temperatures taken in man indicate, in gen-

*On summing up the opinions of physiologists who have experimented with caffeine or with some one of the natural products which contain the principle, the writers find about as many that support the negative as the affirmative of the question.

eral, a slight fall; Marvaud, who has made numerous researches on this subject, finds a fall of temperature amounting to three-tenths of a degree. But we must remark that these researches, as well as others of the same order, are vitiated by the fact that the temperature was taken in the axilla, where the temperature must be considered as peripheral; and Leblond, in researches made with care, has noted that caffeine lowers the peripheral temperature, considered in its relation to the central temperature. This peculiarity, moreover, accords well with the vaso-tonic action of caffeine. Leblond, also, by observing the buccal temperature, which comes much nearer to the central temperature, noticed no variation under the influence of caffeine.

This indirect method of thermic observation leads us then to admit an increase of combustion. The researches on the excretion of carbonic acid are, unfortunately, not numerous; we have found only two series—that of Hoppe-Seyler (1857), and that of Edward Smith (1860). It would, without doubt, have been interesting to verify these experiments, already old, but as they emanate from observers of the highest competence, and agree among themselves, they are deserving of great confidence.

This is a *resumé* of the experiments of Hoppe-Seyler: A little dog took every day a small dose of caffeine (1 to 4 decigrammes), in all a little more than a gramme. During this time, with the same food, the quantity of urea varied so little that the writer did not think it worth while to make any account of it. The carbonic acid secretion was increased from 11.41 to 13.28. This was the mean of eighteen researches of about sixty minutes' duration.

These are the conclusions of Edward Smith as the result of experiments on man: Tea produces augmentation of 2 to 3 grains of carbonic acid per minute. The maximum effect is seen at the end of 25 to 45 minutes; it is equally efficacious when taken cold, and when long infused. "Caffeine is an excitant of the nervous system, but to a less degree than tea."

We may then conclude that the carbonic acid excretion is augmented.

If now we take up as a whole the question of combustion as pertaining to the ternary materials, we find a series of facts perfectly harmonious and coherent from a physiological point of view.

Our experiments, and those of our predecessors related in the first part of this article, have led us to the conclusion that caffeine produces excitation of the motor part of the cerebro-spinal system, whence arises an augmentation of the muscular tonus. Now, we well know to-day, that it is in the muscles that the greater part of the combustion of the economy takes place; that this combustion pertains to the ternary materials; that the intensity thereof is regulated by the nervous system, which increases or slows accordingly as it augments or diminishes the muscular tonus; and lastly, that it is by this mechanism that the nervous system presides over the regulation of the temperature. These laws being established, it would, *a priori*, be inferred that caffeine, which increases the muscular tonus, would cause the temperature to rise, and would augment the exhalation of carbonic acid. These two orders of ideas mutually support each other, and form a perfectly coherent whole.

By the side of these two kinds of researches, each having a bearing upon one element of the question, it is necessary to examine those which have considered the question *in toto*, *i.e.*, to see if an animal subjected to fasting loses more or less of its weight and succumbs more or less quickly to inanition accordingly as it receives caffeine or not. On this subject we find an interesting remark in Hoppe-Seyler *à propos* of the experiment cited above.

"Despite an abundant supply of food, the dog had lost at the end of the experiment, about 3 per cent. of its weight."

Likewise, Edward Smith says that he has "observed several remarkable cases where tea, added to the ordinary regimen of prisons, produced a diminution of the weight of the body."

Guimares and Kaposo attacked the question directly. They subjected dogs to fasting, allowing them all the water they wanted to drink; two of them received, besides, a certain quantity of infusion of coffee. These two died quicker than the others.

We have repeated these experiments, modifying them in the following manner to place muscles as far as possible in irreproachable conditions. We never allowed the fasting to go on to the death of the animal. It is known that nutrition is not the same at the commencement of the period of inanition as at the extreme limit, and we took care not to exceed the first period. We employed dogs as the subjects, and studied fasting without and with caffeine. In this way, we eliminated the individual differences. The dose varied from one centigramme per kilogramme of the weight of the animal (a small dose), to five centigrammes, a dose which produced an energetic excitation.

In these conditions we did not observe in the weight of the body variations which could be attributed to the caffeine. From this synthetical point of view, then, we find no *action d'épargne* (tissue-saving). We deny then to caffeine the property which has been attributed to it in different degrees of maintaining the organism in its integrity, despite inanition.

We arrive at this final conclusion: *Caffeine*

augments the wastes in carbon, and does not restrain the other wastes.

It belongs to us now, with this experimental fact, to explain the tonic action of caffeine on a subject under inanition. We shall abandon the theory of Payen that caffeine is a powerful aliment because it is very rich in nitrogen, and content ourselves with remarking:

1. The doses of caffeine which produce the effects which we have been studying, are ridiculously small for an aliment (several grains only *per diem* for a man).

2. The tenure of a substance in nitrogen, in nothing prejudges its alimentary value for the animal. Urea is more rich in nitrogen then caffeine; is it an aliment?

3. Caffeine passes out unaltered in the urine. We find ourselves, then, in the presence of a seeming paradox:

Caffeine on the one hand promotes denutrition; on the other, it prevents the injurious effects of fasting.

We shall easily succeed in explaining this phenomenon if we take care to distinguish two cases which seem to have been confounded.

It is one thing to resist inaction a long time when maintaining repose; it is another to perform physical or mental work when fasting for a day or two. Now it is the latter of the two alternatives that we have in view.

The condition for resisting inanition is to reduce waste to the minimum, if one has to pass a considerable time without food but in inaction; it is in reality, in this case, a waste-restraining action that is wanted. Cold blooded animals whose activity is much less than the warm-blooded, resist inanition ten times better than the latter; likewise among the mammals, those whose chemical activity is the greatest succumb the most quickly. We find conditions where the resistance to inanition is enormous, and where the saving of tissues is at its maximum.—We refer to hybernation. Now in this case, what do we see? Absolute immobility, profound sleep suppressing not only the activity of the muscles but also that of the senses, slowing the respiration and the heart; that is to say, little expenditure, but also no work.

Now with caffeine we obtain just the reverse, *i. e.* an extensive work; we can, however, obtain it only at the price of the wear and tear of the organism. The law of conservation of energy applies here as everywhere. The animal machine will perform its functions only by consuming conbustibles, and it is precisely by energizing combustion that caffeine permits muscular labor during fasting.

We cannot stop to consider metaphysical theories such as that of medicinal fulminates, according to which, caffeine furnishes to the organism a potential energy accumulated in itself, and which is transformed by the organism into work. This is but playing with words. Caffeine acts on the fasting animal just as it acts on the animal that is fed; the action is identical, and it is the external appearance only of the phenomena which has led physiologists to believe in a special property of caffeine which enables it to replace aliments. It replaces them only from one point of view. We refer to the point of view of the general tonic excitation which the ingestion of alimentary substances produces.

Consider, in fact, the case of a man who performs some kind of work, who is walking for instance: At the end of a certain time there appears in him that state which we call hunger, *i. e.*, with certain special sensations localized in the stomach; he experiences a general enfeeblement; his legs refuse to carry him; it requires an effort of the will to place one foot before the other, an act which he just before accomplished automatically, almost unconsciously; if it is necessary for him to make a greater effort, to leap over a ditch, to climb a tree, he cannot accomplish it at all readily; the heart is slowed, the pulse is small. Suppose now that he eats something. As soon as he has introduced into the stomach a small quantity of food, the discomfort disappears; the vigor and trim return; the pulse regains its amplitude. The sense of well-being is almost instantaneously felt with the ingestion of the first mouthful, especially if the food is warm; the man can now almost immediately resume his walking.

On analyzing this case, let us see what we find: When hunger is felt and has arrested work, it is not because the substances which furnish the energy necessary for this work, fat, glycogen, etc., are exhausted; and the ingested aliments have not renewed these reserves. In fact, it is the very ingestion of aliments that has revived the failing forces; the effect was produced not only before the food was absorbed, but even before it had commenced to be attacked by the gastric juice. It can only be, then, a nervous action with which we have to do here. We know not what part to attribute to the peripheral excitation consisting in buccal, gustative, and stomachal sensations which make themselves felt on the nerve centres to heighten the tone, nor what part to attribute to the immediate absorption of a very small portion of the aliments immediately soluble and absorbable, such as dextrines, sugars, peptones, etc. It is possible that these two processes co-exist, and both conduce to the effect. It is not the reconstitution of the reserves which enables the man to resume his work, as in the case of the locomotive which takes on water and coal, for the aliments ingested will not be utilized till later; but their ingestion enables the worker to utilize immediately the residue of previous reserves.

The cause, in fact, of that enfeeblement which is an integral part of the sensation of hunger, is that the organism, by an instinctive adaptation of itself, restrains its activity and condemns itself to repose in order to diminish the wear and tear of its substance, and to better defend its integrity against inanition.

The researches of physiologists on inanition have taught us, in fact, that from the very commencement of fasting, the rate of exchanges undergoes a large diminution. The temperature falls several tenths; uric and carbonic acid are excreted in less quantity.—As to carbonic acid, for instance, Edward Smith has found the quantity lessened 25 per cent. Ranke, Hanriot and Richet have given similar figures. The mechanism by which is produced this inhibition of chemical actions, consists evidently in a sort of cerebral *engourdissement* or torpor. As it is the nervous system which by its activity regulates that of the organism in general, and as, on the other hand, the nervous system is much more sensitive than any other part of the body to the variations of the internal or external environment, it is this which is the first affected; and as soon as the blood begins to be impoverished and the reserves diminished, unless there supervenes some cause of excitation, the organism is brought by the higher nervous influence into that state of atony where effort is impossible, though it may still be in a good condition to long resist inanition. If the latter continues too long, after all the reserves have been consumed little by little, there comes a moment when the nervous system is attacked in its turn by denutrition, and then the final break-down is inevitable; the loss of weight, previously slow, now rapidly increases, and death ends the scene.

But at the beginning of the period of inanition, we see the organism realize of itself that sparing of the tissues which some have attributed to caffeine; it is this very sparing action which is the obstacle to work, and it is by energizing denutrition that caffeine restores activity.

If, in fact, we admit, as has just been set forth, that the ingestion of aliments acts as a stimulant to the nervous system, it is an easy matter to admit that it is possible to substitute one stimulant for another. We know, in fact, that during famines uncivilized populations have recourse to the ingestion of substances which are not alimentary, as the bark of trees, and clay. It is plain that this artifice may do good by the mechanical excitations which it produces along the digestive tube; for a stronger reason, it is easy to understand that caffeine, with the excitant properties which we have found it to possess toward the nervous system, may have the power to arouse the latter, restore its activity and—by its intermediation—that of the muscles; and thenceforth the organism goes on burning its store of reserves and transforming their physical energy into work. Evidently these reserves will eventually be exhausted, and the harder the work, the sooner this will happen. And if alimentation is not re-established, death will come about quickly. This is what was noticed in the experiments of Guimares.

In support of our theory we will consider two necessary orders of facts, where the activity during inanition is equally maintained intact, or even excited, and where the denutrition is evident. The first of these is the action of cocaine. We have seen, in the introduction to this article, that coca is employed in certain countries in the same way as the caffeine plants in others. Now, cocaine produces a hyperactivity of the combustions so great that one may say that it produces fever. As for fever itself, which constitutes the second order of facts of which we desire to speak, its denutritive action is too well known to need demonstration, and everybody knows that febricitates have no disposition to take food, and that despite prolonged fasting their activity is excessive. The comparison of these two cases with the action of caffeine seems to us to be appropriate here.

RESUME.

1. Caffeine in small and repeated doses, about 60 centigrammes a day (which may be prescribed with advantage to soldiers on the march), facilitates muscular work in augmenting the activity, not directly of the muscle itself, but of the motor nervous system, cerebral as well as medullary. The consequence of this double action is to diminish the sensation of effort, and to avert fatigue, which constitutes a nervous, and at the same time chemical phenomena.

2. Caffeine prevents breathlessness and palpitations consecutive to effort, which is of great importance.

3. It thus immediately communicates to a man who gives himself up to violent and prolonged exercise, the aid that he requires.

4. In producing this excitation of the cerebro-spinal motor system, on which depends the augmentation of the muscular tonicity, the caffeine augments the waste of the carbon of the body, and particularly of the muscles, but does not restrain the nitrogenous waste. It, therefore, is not, in the strict sense of the word, a means of saving (*moyer d' épargne*).

5. A saving action in general can take place in the higher animals in a complete manner to prevent the injurious effects of fasting, only in a condition impossible to realize, namely, inaction or immobility, more or less absolute, where there is little expenditure without work. With caffeine we observe just the reverse, that is to say, intense work which we will obtain only at

the expense of the wear and tear of the organism. The animal machine can work only in consuming combustible matters, and it is precisely in promoting this combustion that caffeine permits muscular work even during fasting.

6. Caffeine has not, as is generally believed, the marvellous property of replacing food; it only replaces the general tonic excitation which the ingestion of food produces. It is admitted that it is the direct and instantaneous action of the aliments which stimulate the stomach and nervous system, and that their alimentary value is at first nothing; one might substitute one stimulant for another. Caffeine, far from sparing the reserves, will place a fasting man in a position to undertake his work only by attacking these reserves, the destruction of which it hastens by the excitation of the nervous system, and by its medium, that of the muscles; the organism will then soon use up its nutritive supply, and the caffeine will not prevent it. It is, nevertheless, of incontestable but temporary utility for the physical forces.

FRACTURE OF THE LOWER END OF THE RADIUS WITH COMPLICATIONS.*

J. W. BRANDON, M. D.

On the morning of the 22nd of August, last, I was called to attend M. J. B., aged 45 white, married, occupation laborer. I found him suffering intensely from an injury to the left forearm, incurred at the steam ore-washer, by being caught and crushed between a wall, and a revolving iron screen weighing several hundred pounds. Upon examining the injured limb, I found the soft parts very much contused, some lacerations, and already considerably swollen from effusion of blood under the integument and between the muscles and tendons, although only an hour or perhaps an hour and a half had elapsed since the accident occurred. Upon examining as minutely as was possible under the circumstances, the patient refusing an anæsthetic, I found an oblique fracture of the lower end of the radius; the lower extremity of the line of fracture, which was very oblique, being as nearly as could be determined, about three quarters of an inch from the extremity of the bone.

The deformity was characteristic of this fracture, viz.: A prominence on the back of the wrist caused by the lower fragment being drawn upwards and backward by the supinator longus, extensors of the wrist, and the flexor and extensor muscles of the thumb. Also a prominence on the anterior aspect of the forearm, produced by the upper fragment being drawn forward, pushing the tendons of the flexor muscles before it (and, judging from the long continued inflammation of these structures which resulted, severely lacerating them) and also inward toward the ulna by the action of the pronator quadratus.

The fracture was reduced in the ordinary way, by grasping firmly the hand and the wrist, flexing the forearm upon the arm in order to relax the muscles, and making strong traction on a parallel with the forearm. By this manipulation the fragments were adjusted as accurately as possible, and were so held by an assistant until the splints were applied. The splints were made of light wood, well padded to adapt them to the natural inequalities of the limb, and slightly wider than the forearm in order to prevent lateral pressure by the bandage. The anterior splint extended from the bend of the elbow to a little beyond the palm of the hand. The posterior splint extended from the elbow to the knuckles, leaving the ends of the fingers free for the employment of passive motion, and also to enable me to observe the state of the circulation in the limb. A pad consisting of a roller bandage, rather loosely rolled in order that it should adapt itself accurately to the part, was placed in the palm to keep the hand steadily supported in the desired position. These splints now held the parts in a perfectly natural position, as was shown by comparison with the uninjured limb, with the exception that the hand was slightly inclined toward the ulnar side of the arm, as is customary in these fractures to assist in the extension of the radius, thus attempting to prevent shortening of the bone by overlapping of the fragments. The splints were kept in position by a roller bandage, which was applied from the hand to the elbow, with uniform pressure, and as firmly as was consistent with comfort and at the same time not interfere with the circulation. The patient was requested to co-operate with me in an attempt to keep the arm as nearly as possible in the same position until the bones could unite. This attempt was carried out, on my own part, so far as it was in my power to do; visiting him daily at his home until the twelfth day, September 2d (with the exception of one day, August 25th). At the time of my next visit, on September 3d, my patient was not at home; but I saw him at the post-office almost every day thereafter, and the splints were worn, as above described, for six or seven weeks. While the patient was confined to bed, the limb was kept in an elevated position upon pillows; when out of bed it was supported by a sling in such a position that the palm was directed backward toward the body. On account of increased swelling, it became necessary to relax the bandage on the third day. On the fourth day the bandage was removed en-

* Read before the Tennessee State Medical Society, April, 1890.

tirely, in order to enable me to dress the lacerations which had become quite painful. While this was being done, the splints were disturbed as little as possible, being held in position by an assistant. The appearance of the limb was now about as follows: The hand presented a natural appearance, excepting that it was moderately swollen; the surface about the lower half of the forearm, from the wrist to a point midway to the elbow, was considerably ecchymosed, the result of the crushing and bruising by the machinery, and in places presenting an appearance of threatened gangrene. These places afterwards sloughed, being too severely bruised to retain their vitality, leaving raw surfaces which necessitated the occasional removal of the bandage and splints in order to dress them, one splint only being removed at a time, the other serving to support the arm, it, and also the hand, being held in position by an assistant.

Passive motion, employed with a view to the prevention of stiffening of the joints and of union between the radius and ulna, was begun as early as was consistent with safety.

The patient was directed to exercise the fingers daily from the first. Movements of the wrist were begun later; and finally attempts at pronation and supination were made, very gently at first, attempting to gradually increase as he could bear them; but the patient was never able to endure motions of the wrist and forearm, except to a very limited extent, on account of the pain excited.

The inflammation following the injury was of long duration, of a low chronic type, indicating involvement of the tendons and their sheaths, which usually results in adhesions between them; and this diagnosis was confirmed, I think, by the stiffness which has resulted notwithstanding our efforts at passive motion. The fact that the inflammation of these structures extended to the synovial membranes of the wrist and finger joints, as was indicated by the extreme pain upon moving them, affords additional explanation of the anchylosis of these joints after such and similar injuries, constituting what is known as false anchylosis, which, to some extent at least, is overcome in the course of time. The patient being of a scrofulous constitution, as was evident by a former hip-joint disease, and by unmistakable evidence of the disease in his children (the mother being apparently free from struma), affords another explanation of the nature of the inflammation which followed the injury. The most unfortunate result of the long continued inflammation was to keep the limb in such a state of extreme sensitiveness as to render it impossible for the patient to endure any but the slightest pressure of the dressing; hence the impossibility of keeping up a proper amount of extension and counter-extension to prevent overlapping of the fragments, which has resulted in some shortening of the bone, and consequently some deformity of the limb. Adding considerably to the deformity, there is an exostosis, resulting from exuberant callus, about the size and shape of a small lemon somewhat flattened, situated near the wrist joint on the anterior aspect of the arm, having sprung from the seat of fracture, and united to the ulna, notwithstanding efforts to prevent by passive motion—or rather attempts at passive motion, which, as before stated, could be endured to a very limited extent only—and has completely abolished the function of pronation and supination. The internal treatment was conducted on general principles; opiates for the relief of pain; laxatives when necessary to keep the bowels open. During the first week the diet was mild and unstimulating, afterwards more generous. As the temperature never rose above 100°, no antipyretics were employed, excepting a few doses of quinia during the first few days. The patient was confined to his room for a week, and went to work after the 8th week. Notwithstanding the complications described, and the imperfect results obtained from the treatment, he has a useful arm, which enables him to follow his occupation, now that of teamster.

STRIBLING, TENN.

INCONTINENCE OF URINE IN CHILDREN.*

BY A. J. SWANEY, M. D.

In January last, a lady brought to me for treatment her daughter, aged 13 years, who had a constant discharge of urine. Upon inquiry I learned that she had all her life passed urine frequently during the day, and unconsciously in bed at night. Recently this frequent micturition had greatly increased, which kept her clothes constantly wet. For this cause she could not attend school or any public gathering. She had gone the rounds of the doctors, and had been subjected to a variety of treatment without benefit. Her mother had kept copies of a number of prescriptions given, nearly all of which contained belladonna or atropia. This case, with others that have come under my care, has induced me to offer this paper.

Before discussing the various specific causes of incontinence of urine in early life, it will be well to glance at the peculiar physiological conditions which obtain at this period, and constitute the general predisposing cause. The state of the bladder, and the relative development and activity of the spinal cord and brain, must be principally considered, since for the

*Read before the Tennessee State Medical Society, April, 1900.

bladder in infants and young children there is a relatively powerful detrusor and a feeble sphincter. The involuntary muscle surrounding the mucous membrane, which by its contraction voids the urine, is well developed, but the sphincter muscle that guards the entrance of the bladder has not sufficient tone in many cases to properly resist the action of the vigorous detrusor. Again, in early life the spinal cord is highly developed, particularly in the motor area, and as a consequence the reflexes are all active; a disturbance that in an adult would produce sensory disturbance, will in the infant be reflected in a motor arc and result in muscular contraction. Hence the centers in the lower part of the cord that preside over the action of the bladder, are ready at the slightest irritation to act upon this organ and to cause it to empty itself. In adults the reflexes are not so active, since the brain which holds an inhibitory action on the spinal cord is highly developed. In infants, however, the brain is watery and in an incipient stage of growth, so that the proper control of the spinal cord by the higher center is wanting. Owing to these structural and physiological peculiarities, incontinence of urine is very readily induced in early life, if the slightest source of irritation is present. The older the child grows, and the stronger its nervous equilibrium becomes, the less likely is it to suffer from this disease.

It will be an aid in the treatment of this condition to consider the specific causes of irritation that may be active in producing it. One reason that the attempts to relieve incontinence are unsuccessful is, that one drug only is given, on the assumption that one cause only is possible when, as a matter of fact, a number of diverse causes are possible, and the treatment that is adapted to one may not apply to another. The various causes may be tabulated as follows:

1. Excessive acidity of the urine.—This is usually caused by excessive formation of uric acid; such urine is very irritating to the sensitive mucous membrane of the bladder, and hence is apt to be promptly and frequently voided.

2. Over irritability of the muscular coat of the bladder, even when the urine is neutral.—The unstriped muscular fibres of the bladder may become unduly irritable, just as well as any other of the involuntary muscles of the body.

3. Weakness of the sphincter.—In such a case the urine is not passed rapidly or in full stream, as when the cause is in a forcibly acting detrusor; it will therefore be an aid in diagnosis to find out the manner in which the urine is voided, as when it dribbles away there is probably some fault in the sphincter which requires special treatment adapted to this cause.

4. From reflex action.—Any source of irritation in or about the genital tract may be a cause of incontinence of urine; a local examination may discover a balanitis, or adhesions between the prepuce and glans penis with smegma around the corona, or ascarides, fissure of the anus, vaginitis, etc. My partner, Dr. W. T. Allen, has had two cases of the former, during the last year, which he effectually relieved by breaking up these adhesions. In all cases of incontinence in children the anus and genitals should be examined.

5. Too great a quantity of urine, from drinking too large quantities of fluids, as when the child is living exclusively or largely on milk; the mere bulk may fill up the bladder and act as a cause of incontinence.

6. Vesical calculi.—In such cases there will be other symptoms of stone in the bladder besides incontinence of urine, although the latter may be the most persistent and annoying.

7. Malformation of the bladder.—Several cases have been reported in the literature of the subject, where persistent and irremediable incontinence was induced by one or both ureters opening into the urethra; in such cases the urine would dribble away as it descended from the ureter.

8. Contraction of the walls of bladder, owing to hypertropy of the muscular layer reducing the capacity of the viscus to one or two ounces.—This I found to be the condition of the bladder in the girl mentioned in the beginning of this paper; the walls had contracted so much that her bladder would not hold more than one and a half ounces of water.

It is evident from the consideration of the various causes of incontinence, that successful treatment must depend upon the discovery of the proper cause in each specific case. Probably the three most common causes are: Excessive acidity of the urine; over-irritability of the muscular coat of the bladder; and weakness of the sphincter.

When the urine is highly acid, it must be neutralized by the administration of alkalies. The acetate of potash is one of the best of preparations to use, although the bicarbonate of potash or of soda may likewise be employed for the same purpose. Fruits often answer well for children old enough to partake of them, as the vegetable acids are changed to alkaline bases in the system.

Only when the fault is from the detrusor acting too vigorously, does belladonna serve as a specific. Children have a good tolerance of this drug, which must be given in full physiological doses. Five drops of the tincture may be given three times a day at first, and the dose increased by single drops until there is some dryness of the throat and flushing of the skin; when these effects are produced, the drug will control the incontinence; but it is useless

to keep pushing belladonna in large doses if it does not soon have the desired effect.

When a lack of force exists in the sphincter, ergot in full doses is indicated; a child five years old can take 10 or 15 drops of a reliable fluid extract three times a day, and it will be well to continue the administration for several weeks, as the drug does not act like belladonna, which shows its effects almost at once if it is going to favorably influence the trouble.

Dr. H. D. Chapin, of New York, injects 5 or 6 drops of the fluid extract of ergot directly into the connective tissue of the ischio-rectal fossa, with good effect; the drug is thus thrown in close proximity to the neck of the bladder, and, perhaps, has a stronger effect. It is possible, also, that the moral effect of this procedure may contribute materially to its efficacy, through the fear of the pain induced by the prick of the hypodermic needle. It is known that any factors influencing the nervous system of children, such as a change of air and scene, or even a change of bed, are apt to have an effect upon incontinence.

In cases that resist treatment, careful search should be made for reflex sources of irritation. Stretching of the prepuce, breaking up adhesions between the prepuce and glans, or even circumcision, may have to be performed. In the case first mentioned, of the girl 13 years old, I found a contraction of the walls of the bladder; the viscus would not retain two ounces of fluid without pain, and the urine was highly acid. I followed the plan of treatment advised by Dr. H. Marion Sims, of distending the bladder with injections of warm-water, which was done through a silver catheter with a Davidson syringe. This procedure was repeated daily until the bladder held nearly a pint of water, which was accomplished in six weeks' treatment. Her improvement was rapid from the first injection. She now retains her urine three to four hours during the day, and if made to get up and void her urine at night does not soil the bed. The distension of the bladder was extremely painful at first, and it required great fortitude to persist in the treatment. To neutralize the urine, she took large doses of acetate of potash; and, as Dr. Sims directs, no water was allowed to remain in the bladder.

In all cases of incontinence, everything possible must be done to tone up the nervous system; to this end, tonics must be administered. The two most valuable, perhaps, are syrup iodide of iron, and strychnine, in full doses. As general prophylaxis, the heartiest meal should be at dinner, with plain food; but little fluids in the evening, and no tea or coffee allowed. The bowels should be kept open, and the bladder should invariably be evacuated before going to bed, etc.

GALLATIN, Tenn.

Correspondence.

PARIS LETTER.

PARIS, April 19th, 1890.

TREATMENT OF ACNE—PROF. FOURNIER.

The treatment of acne is based especially upon the employment of external remedies, for internal treatment is of no value in this affection. The question of diet, however, is of importance; over-eating should be carefully avoided, as well as a too free use of meat, condiments, etc. The main point, however, is the employment of local remedies having an action either stimulant, substitutive, or destructive.

The first group includes a series having an action mildly exciting upon the skin. Here may be mentioned hot applications repeated several times a day, and local douches of steam. Applications of soap are also useful; the friction with the powder of soap should be vigorously applied, and last five minutes for the face and ten minutes for the back; and it should be repeated twice a day, and continued until the irritation becomes quite severe. If this does not suffice, the following is employed on retiring:

℞ Vaselin, 20 grammes.
Precipitated sulphur, 2 grammes.
Essence of rose, 3 grammes.

The following, applied in the same way, is still more simple, and should not be removed until the next morning:

℞ Water, 250 grammes.
Camphorated alcohol, 30 grammes.
Sulphur, 15 grammes.

These means will suffice in light cases; but when the disease is more obstinate, the parts affected may be painted with oil of cade, or tar.

The application of potash soap produces effects still more marked, a veritable dermatitis in fact, and the patient should, therefore, be informed beforehand of the results likely to be produced.

Applications, as a rule, should be made every evening for four or five days in succession, and be removed in the morning by washing with hot water. Emollients should then follow for some days. The same treatment is recommenced, to be repeated several times if necessary, and at the end of six weeks the result is generally good, but, unfortunately, not always permanent.

If these means fail, recourse must be had to more energetic methods, among which may be mentioned scarification, cauterization by ignipuncture, etc.

ULCER OF DUODENUM.

The patient, a woman 46 years old, four years since had severe attacks of hæmatemesis followed by obstinate pains in the abdomen. A short time ago these attacks recurred, accompanied by cough, expectoration, etc. The blood vomited was black, and the fluid with which it was mixed tenacious, indicating its probable origin in the stomach or intestines. She also stated that black stools had been passed before the attacks of vomiting appeared. The question to decide was, therefore, to determine exactly the location of the lesion.

Cancer could be excluded almost with certainty, for the general condition was too good, moreover there were several points which especially attracted attention. Appetite and digestion were both excellent, and there was absence of painful points either in the region of the pit of the stomach or of the spine. All these facts led to the supposition that the trouble was simple ulcer of the duodenum.

Ulcer of the duodenum, generally single, is found almost always in the first portion of this intestine before the insertion of the duct of the liver; it does not differ anatomically from ulcer of the stomach. By perforation, or by adhesions, it may give rise to the same sort of complications as the latter affection, and on account of secondary contraction of the tissues may offer obstruction to the passage of the bile. It may remain latent for a long time, and only reveal itself finally as a gastralgia or constant discharge from the stomach; melæna, that is, the black coloration of the stools caused by the admixture of blood, soon supervenes, which is a symptom of great importance though it unfortunately often escapes the notice of the patient, unless attention is especially called to it. Again, it is only at a late period of the disease that profuse hæmorrhages occur. Pain has much less value as a symptom than in ulcer of the stomach, since it is vague and with nothing that can be deemed characteristic; but it manifests itself three or four hours after meals commonly. Finally duodenal ulcer does not affect the general health for the reason that the patient continues to eat with a relish, and as a rule, digest without difficulty.

Attacks of vomiting are not uncommon but occur only some time after eating, as in the case of affections of the pylorus.

The course of duodenal ulcer is slow and irregular, and it is very difficult to form a just idea of it on account of the uncertainty which envelopes its commencement. Again, its course is marked by crises or exacerbations; just as the patient appears to be cured, the symptoms return unexpectedly and at irregular intervals. The great danger to be feared is, of course, perforation,—even more than the hæmorrhage, which weakens the patient but is rarely dangerous in character.

Contrary to what is observed in ulcer of the stomach this affection is more common in men than in women. Alcoholism plays a certain part in its ætiology, as well as traumatisms, foreign bodies, etc.; it has also been observed after infectious diseases and puerperal affections.

As to treatment, milk diet should be prescribed, and followed faithfully for a long period of time. The alkalies in moderate doses are also of service. Finally, powerful counter-irritants, such as blisters, the actual cautery, etc., are not be neglected.

COCAINE.

A Paris physician lately took pains to search out and investigate all the reported cases of evil resulting from the use of cocaine, thus far published, and arrives at the following conclusions: A moderate use of cocaine (5 centigrammes), when injected under the skin, has only been known to produce death in a single instance. Here the two cardinal signs of cocaine poisoning—livid color of the face, and convulsions—were wanting, and as the patient lost consciousness immediately after the injection, dying some hours later, there is every reason to believe that the unfortunate termination was due to cerebral hæmorrhage, of which the patient had already suffered one attack. With this exception, death has heretofore occurred only through enormous doses, varying from 75 centigrammes to a gramme and over. Up to 20 centigrammes, unpleasant results may obtain, such as great excitement, and even convulsions, but nothing to be greatly feared, In short, the final conclusion is, that cocaine may be employed in doses of 20 centigrammes, though as this may be a source of danger, it is best to limit the dose to 5 or 10 centigrammes.

To combat the accidents produced by cocaine, caffeine, nitrite of amyl, and injections of ether have been used; and for the convulsions which are sometimes induced by it, chloral or chloroform may be employed.

ANOTHER MANIFESTATION OF MALARIAL POISONING.

Two Parisian physicians lately made a study of the question, whether gangrene may be caused by the poison of malaria. As a result, they have arrived at an affirmative conclusion, numerous cases being recorded. Gangrene in general may be divided into two forms: *Idiopathic*, resulting from disturbances in the circulation and local asphyxia; and *secondary* resulting from traumatism, often extremely slight, and almost always observed in persons profoundly debilitated by some organic disease of the liver, kidneys, etc. That pro-

duced by malaria is of the primitive or idiopathic form, and may attack any portion of the body. The parts generally affected are, however, the extremities, the projecting portions of the head, and the male genital organs. It also, usually, takes on the form known as dry gangrene, and presents nothing especial to distinguish it from non-malarious forms so far as the symptomatology is concerned. It may be mentioned, however, that it rarely attacks at once all the parts destined eventually to be involved, but advances successively or by exacerbations which coincide with the attacks of malarial poisoning.

A typical case has recently been recorded of an Italian, employed in digging in the neighborhood of a pond. He was admitted into hospital in a condition of organic depression, and presenting gangrene of the extremity of the nose and of the lobes of both ears. At the beginning the fever was slight and not well marked in character, but later on it presented the well defined form of a malarial attack. He was treated by quinine in large doses, and a cure finally obtained, though his stay in hospital was extended over a year.

EPISTAXIS.

Many patients are greatly annoyed by frequent attacks of nasal hæmorrhage, without knowing the real cause therefor, or how to remedy it. Such are frequently due to the presence of an erosion upon the anterior portion of the septum of the nose, whose cicatrization is prevented by the mobility of the region and the presence of hardened masses of blood or mucous which irritate the parts, and which the patient constantly detaches. If an erosion is present in the locality mentioned, it can readily be distinguished by the aid of mirror and reflected light, and the treatment is extremely simple, and generally effective. The patient should be directed to avoid detaching the crusts which form, and to use his handkerchief as seldom as possible; in addition he should fill the nostril three times a day with vaselin, by means of a spatula, taking care not to introduce the instrument, but simply to use it to push in the medicament, the head being thrown back at the time. In the nasal cavity, the vaselin melts and dissolves the hardened crusts which prevent the healing.

If the epistaxis comes on during the course of this treatment, the patient may introduce a wad of cotton, soaked in a ten-per-cent. solution of cocaine, which will generally arrest the hæmorrhage in three or four minutes. This simple treatment has sufficed to cure cases of chronic epistaxis which have lasted for years.

W. F. Robinson.

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Editorial.

THE ACTION OF CAFFEINE ON THE ORGANISM IN HEALTH AND IN INANITION, AND THE RELATION OF STIMULANTS TO WORK.

On another page will be found a paper by MM. Seé and Lapicque on the action of caffeine. The article is much more comprehensive than its title conveys, as it enters minutely into the obscure and hitherto little understood subject of the action of stimulants in the economy. What is said of coffee and its alkaloid is shown to apply to other substances, as coca, and we might add, moderate doses of alcohol, and perhaps tobacco; more than this, the immediate effect of all food is that of a stimulant arousing the flagging forces of the organism before any considerable amount of digestion or absorption sufficient to account for the effect has taken place.

The *modus operandi* of stimulants on the economy has been variously explained. A popular view, based on the researches of Liebig, is that they save the tissues from destruction by offering themselves as combustibles instead. Tea and coffee, says Gubler, are *dynamophores;* they possess nitrogen, and so contain a great deal of locked-up force, like gunpowder; it is especially the caffeine in them that arouses the system by its own specific latent energies. This theory had to be given up when it was proved that caffeine passes out of the organism unchanged in the urine. The view may, however, be stated somewhat differently with regard to alcohol which was long believed to be a real calorifacient, or respiratory food, by its combustion in the economy saving the tissues from consumption. Certainly, there was much plausibility in this theory. Professor Seé has, however, brought new light to this vexed question, and it would seem from the researches of himself and colleague that it is not precisely by any substitutional agency that these stimulants act, but by calling forth, whipping up, and sustaining, the nervous energies which preside over metabolism in the tissues. It is now known that mus-

cular force and animal heat are derived from the oxydation of certain ternary compounds stored up in the recesses of the muscles—fat, glycogen, etc. These so-called reserves are the absorbed products of digestion; they are like the coal and water that run the steam engine; the muscles draw on them when they do work, and in breaking up, these carbo-hydrates yield force and heat; and as the supply begins to shrink, we feel hunger and commencing inanition. The nervous centres (cerebral and medullary), also endeavor, with a sort of true economic foresight, to inhibit further drafts on the reserves, consequently, if we have work that must be done, there is a struggle between the voluntary energies and the failing muscular forces—fatigue and enfeeblement keep on increasing. But let some powerful excitation arouse the centres that govern metabolism, and the muscles are compelled to use up still more of that reserve; the machine is kept still longer going. This is precisely what stimulants, such as tea and coffee, effect; they add nothing to the reserves or working forces of the economy, but put the organism in trim for work by allowing the muscles more completely to utilize the stored up glycogen and fat. The waste of the tissues goes on all the same. Caffeine and coffee will not keep a man from starving; on the contrary, he will starve all the sooner with, than without, them. Here then is the true advantage of these substances as foods which not only have a stimulant action, like caffeine, enabling the muscles to draw still farther on the reserve stores, but by undergoing digestion and absorption, they supply material to make good the wear and tear, and thus keep the organism from running down.

THE ANCIENT VERSUS THE MODERN DOCTOR.

The British Medical Journal, Jan. 25th, 1890, in commenting on a recent American book, "The Evil that Has Been Said of Doctors," by Dr. T. C. Minor, congratulates medical men on the progress of their art and the elevation of the profession in public estimation.

It is certainly gratifying to hear recounted the glories and triumphs of medical art as practiced to-day; and praise being more stimulating than criticism, we venture to echo the scholarly song of rejoicing that our contemporary voices:

"Nothing is more curious to the contemplative physician of the present day than to watch the steady rise of his profession in public estimation. When he remembers the sarcasms, the biting satires, and the unpleasant jokes which have been from the earliest times directed against him and his art, and then reflects that at the present day the doctor bids fair to occupy a still higher post of honor, he will find abundant food for reflection in the causes which have worked this remarkable change. Looking back at the history of medicine and surgery as practiced in ancient Greece and Rome, amongst the Hindus and the Saracens also, we cannot fail to be impressed with the perfection to which surgery, at least, had attained, and the very rational principles upon which medicine was practiced in those early ages. Yet we suspect that it was only here and there that a high-water mark was reached by the medical knowledge of the time, or it would not have been possible that there could have accumulated so great a legacy of satire and contempt of which we are scarcely rid at the present day. An American physician, Dr. T. C. Minor, has collated from Dr. Witkoski's *Le Mal qu'on a dit des Médecins* a great number of extracts from Greek, Latin, French, and English writers, which reflect in no flattering terms against the honor and dignity of our learned calling as it was practiced in the times in which the respective authors lived. From Æsop, eight centuries B. C., down to George Colman, in 1826, it appears that the hardest things have been said of us, and the wonder is, when they are all brought before us in this tremendous indictment, that our order survived at all. If a fiftieth part of it were true, the Governments of all nations should have suppressed us, as they did the order of the Knights Templar.

"No doubt a good many of the pleasantries directed against us may be explained on the principle that mankind is prone to pretend to treat with levity the things which it holds most sacred. We make fun of death and Satan, and neither priest nor parson escapes our wit. It would be as easy to make a big book of the hard things which have been said against the clergy as against doctors, and it would be far easier to serve the lawyers the same. The point of the joke in these cases is different, however, from that aimed at ourselves. We do not find that anti-clerical and anti-legal sarcasms hit the ignorance and incompetence of the sister professions; the anti-medical jokes, on the other hand, are chiefly directed against the murderous stupidity of the attempts at healing, on which our profession formerly actually prided itself, unless all history lies. If we are now fast rising in public favor; if we are admitted to take part in the highest deliberations of the State, and our advice is sought in almost every detail of social and municipal life, it can only be because our universities and licensing bodies have so raised the standard of medical education, so laboriously striven that we should be worthy of public confidence, that the doctor of to-day bears actually but the faintest resemblance to the pompous empiric—half-magician, half-quack—of the past.

"When therefore we read the epigram of Sen-

eca, to the effect 'that doctors with as much ignorance as zeal, will murder in the most obliging manner,' or that many centuries later, Molière could speak of the faculty as 'a pack of asses, fools, and scoundrels,' we feel as little affected by the censure as our judges when they read the judgment of history on the doings of a Jeffries or a Bacon, or as our magistrates when they read the strictures of Pascal on their order. It is not for their ignorance the world is inclined to blame us now; if for anything, it is because we are becoming too scientific in the sense reprobated recently by Professor Huxley in his rebuke to Mr. Herbert Spencer.

"Perhaps the most noticeable feature running through all the satires collected by Dr. Minor is the pompous assumption, the amazing pretence of wisdom, in all the medical men who are their subjects. From the doctor in the comedy of Plautus, who swore he would cure his patient, if he had to 'go short-winded 600 times a day,' to Molière's Sganarelle, who protested that he was 'the ablest, greatest, and most skillful physician in the vegetable, mineral or animal faculty,' the real blot hit by the satirist is always the pretentious bombast of the ignorant empiric, who doubtless bled, purged, and frightened to death more patients than they cured. We are at least learning now the limits of our knowledge.

"Dr. Minor's book is crammed full of good things, which we can appreciate even better than the general public, as the verses which Petrarch wrote on the famous accoucheur who enriched himself at the expense of pregnant women—

'Quas bona pars hominum muliebri condit in antro,
Ex illo Clemens eruit unus opes,'

and that *bon mot* in which a doctor was compared to a priest 'as having power to bind and loose.' That, too, is an excellent story of De Launay's, of the French lady of fashion who was a brilliant doctor, and especially fond of the society of some Paris physicians, and who when sick sent her valet to say to them 'Madame is ill to-day, and does not desire to see a doctor.' We can laugh, too, at the story of Chirrac, the French surgeon, who heard a sermon on the raising of Lazarus, and exclaimed as he left the church, 'If he had been my patient they could not have raised him.' The wits and poets of more modern times treat us with greater consideration, and however severely the public may sometimes be inclined to judge us, we have at least the satisfaction of knowing that, as Byron says—

'Although we sneer
In health—when sick we call them to attend us
Without the least propensity to jeer.'

CONDITIONS PRODUCTIVE OF ALBUMINURIA.*

III.

As the result of elaborate series of experiments, by Loewy, Schmidt, Runeberg, and others, Lecorché and Talamon draw the conclusion that the physical conditions which favor the filtration of albumen through animal membranes are: Lowering of the blood-pressure; diminution of the velocity of the blood-current; and elevation of the temperature. It is rational to suppose that when these physical conditions are realized in a diseased kidney, the quantity of albumen that filters through the dialyzing membrane must be greater than in opposite conditions. When once the epithelial barrier is altered or destroyed, the renal filter may very properly be compared to a dead animal membrane, and regarded thereafter as subject to the laws of filtration.

The experiments which have been performed to determine the circulatory conditions on which albuminuria depends are: Ligature of the renal artery, and ligature of the renal vein. Both are followed by the presence of albumen in the urine. Ligature of the artery certainly causes slowing of the blood-current and lowering of the pressure, and ligature of the vein has the same result, according to Runeberg; this is, moreover, in accordance with the observations of Lecorché and Talamon. This conclusion is in harmony with experiments made on the filtration of albuminous solutions through animal membranes; Runeberg's experiments, in fact, show that albumen filters better under feeble pressure than under a strong pressure: those of Lecorché show that the slower the current, the greater the quantity of the albuminous filtrate.

In the albuminuria accompanying ligature of the blood-vessels, there is still another factor, more important than the retardation of the blood-flow and the fall of blood-pressure, viz., the lesions in the glomerules. The epithelial cells begin at once to suffer in their nutrition, and fail to restrain the transudation of albumen; this, according to Lecorché and Talamon, is the direct cause of the albuminuria. The arterial ischæmia brings about as its speedy result, mortification and desquamation of the epithelia; then the filtration of albumen. Similar circulatory modifications may be of nervous origin. According to Claude Bernard, whenever the nerves of the kidney are irritated or cut, albumen passes out in the urine. Capitan, on cutting a few nerve filaments in the hilum renale, has seen the urine become albuminous and sanguinolent; the renal vein was extremely dilated, the artery very much contracted and its calibre diminished. Section of the dorsal cord causes con-

* Continued from page 160, (*Medical Age*, April

siderable fall in the blood-pressure, while excitation of the cord causes contraction of the renal arteries; in both cases there is slowing of the blood-current and diminution in the afflux of arterial blood, with albumen in the urine.

In the celebrated experiment of Claude Bernard, in which albuminuria was produced by wounding the floor of the fourth ventricle, and in similar experiments by Schiff and Brown-Sequard (pricking the pons, the cerebellum, tubercular quadrigemina) congestion of the kidneys is brought about by paralytic dilatation of the vessels; in these cases, as in all other cases of nervous origin, the same mechanism has been found to exist, viz., retardation of the blood current and alteration of the epithelium.

Lecorché and Talamon sum up the results of a careful study of the physical or mechanical conditions of albuminuria in the following conclusions:

Modifications of blood pressure play no direct part in the production of albuminuria.

The notion of albuminuria by augmentation of pressure ought to be abandoned. Physically, it is not augmentation, but diminution of pressure that favors the filtration of albumen. Experimentally, blood pressure, whether augmented or diminished, may be regarded as an indifferent factor.

In venous stasis, as in arterial ischæmia, the retardation of the circulation is the primordial pathogenic agent. But this physical modification of the circulation is not the direct cause of the exudation of albumen, but only the immediate cause. The immediate effect is *the lesion of the epithelium* in contact with a blood insufficient for its nutrition; this lesion is the true effective condition of albuminuria.

It is the same with albuminuria of nervous origin; the nervous system seems to act on the secretion of urine only by the medium of the circulation.

Whether it occurs in connection with venous stasis, arterial ischæmia, or nervous perturbation, albuminuria is always dependent on the same mechanism, viz: Alteration of the secretory epithelium consecutive to an insufficient afflux of blood-pabulum.

TURPENTINE STUPES IN BRONCHITIS.

Dr. Jaubert (Journal de Médecine d' Algiers) advises the use of the turpentine stupe in bronchitis, acute or chronic. Impregnate a large piece of flannel with three or four teaspoonsful of spirits of turpentine and bind it around the chest, in front as well as behind; over the flannel a thick layer of wadding may be placed to conceal the odor of the turpentine. Every day or two renew the turpentine application. As adjuvant treatment, codeia, one grain, is given at bedtime, and aconite during the day. Jaubert declares that no attack of bronchitis will resist this treatment, which is better than the massage by flagellation prescribed in Norway and Sweden.

Horace Dobell, an excellent authority on the treatment of bronchial and pulmonary complaints, says that there is no class of diseases in which counter-irritation gives such unquestioned and unqualified relief as in affections of the respiratory tract of mucous membrane. He gives his preference for cantharides blisters. In severe cases, he is in the habit of ordering at the commencement of treatment, three blisters, one for the front of the chest, and one for each side between the scapula and the breast, to be used in succession; each blister to be allowed nearly to heal before the next is applied. After removal of the blisters, a warm linseed poultice should be applied. After the more decided effect has been obtained by the blisters, turpentine stupes and liniments containing turpentine may be employed with advantage.

THEOBROMINE AS A DIURETIC.

Gram, in Therap. Monatshefte, sums up the advantages of theobromine as a diuretic.

He has made use of the salicylate of soda and theobromine which is soluble, and the cases upon which he experimented were suffering from valvular heart disease with dropsy. In all, the theobromine augmented the urinary secretion when other diuretics failed. He also obtained good results from the theobromine in a case of Bright's disease with dropsy. He found it to fail as a diuretic when it was not absorbed, and when the renal epithelium was completely degenerated.

Pure theobromine, he says, is with difficulty absorbed. After its absorption it produces intense diuretic effects without affecting the heart. The diuresis must be regarded as the result of a direct action exercised by the theobromine on the kidneys.

The double salicylate of soda and theobromine is readily absorbed, and produces diuretic effects where theobromine alone is without action. It is not toxic. The dose is fifteen grains every four hours till ninety grains have been taken in the twenty-four hours.

The salicylate of soda in no way enhances the diuretic effects produced by the double salt.

Insurance Losses from the Influenza.—Mr. Smee, an actuary for a large London insurance society, has made an estimate that the losses in England from the influenza epidemic will amount to £1,000,000 cash paid out by companies and beneficiary societies, and another million in the losses of time and wages and disorganization of trade.

Notes and News.

Gladstone on the Independence and Modesty of the Medical Profession.—Mr. Gladstone opened the new residential college at Guy's Hospital on Wednesday, and in the course of an interesting speech said he could not help wishing that botany formed a recognized education, because not only was it in itself a most beautiful and interesting study, exercising the mind without fatiguing it, and stimulating the imagination without leading it astray, but it led to a careful observation of Nature, and to a habit of noticing the qualities of plants which were so remarkable and so powerful in their healing capacity. He also spoke of the large fortunes which are now made in the medical profession, and was rejoiced to think that the day had come when the medical man who spent his talents and strength in the performance of his duty was, as in other professions, able to make competent and even large provision for his family. He contemplated with singular satisfaction the independence of the profession. It did not rely upon endowments. There was, indeed, no great profession which had so modestly dipped its hand into the public purse. It was eminently self-supporting, and this did much to maintain its honor and independence, and enabled it to pursue its stately march, to form its own convictions, to act on its own principles, without fear or favor, for the general benefit of mankind.—*Chemist and Druggist*, March 29th, 1890.

Size of Head and Intellectual Capacity.—The British Medical Journal has been editorially in labor over the relation between the size of the head and intellectual capacity.

As a result of its examination of statistics, the following conclusions are reached:

Examination of the cranial capacity, from which a fairly accurate approximation of the size of the brain may be drawn, has shown that in the civilized European, the size of brain is considerably higher than in savage races, not only as an average, but in individual cases, and that the variations in the former are much greater than in the latter. A series of observations on the size of head of students at Cambridge University, recently published, are of great interest, and show that the size of head of those who obtained high honors is considerably larger than that of the ordinary students at the same age, while the remainder of the honor men occupy an intermediate position as regards size of head. M. Le Bon, in a very valuable paper, has been able by means of examinations of the registers of a hatter, to ascertain the size of the head for hats of a large number of persons in various social positions in France. These he divided into five classes, and found that the relative position occupied by each class with respect to size of head was as follows, beginning with the largest: 1, Men of science and letters: 2, Merchants: 3, Nobles of ancient family: 4, Domestic servants: 5, Peasants. These various and independent observations show that there is a direct relation between the size of head and brain on the one hand, and intellectual ability on the other, when applied to a number of persons collectively, but in the present state of our knowledge trustworthy deductions cannot be arrived at with respect to individuals.*

State Medical Association Meetings in 1890.—

State.	Secy's Name and Address.	Time and Place.
Alabama....	T. A. Means, Montgomery.	Birmingham, Apl 8.
Arkansas	L. P. Gibson, Little Rock.	Little Rock, May 14.
California	W. W. Kerr, San Francisco.	Los Angeles, Apl. 15
Colorado	H W. McLaughlin, Denver.	Denver, June 17.
Connecticut ..	N. E. Wordin, Bridgeport.	New Haven, May 23.
Dakota.	R. C. Warne, Mitchell.	Sioux Falls, June 12.
Delaware	J A. Ellegood, Laurel.	Wilmington, June 10.
Florida.	A. W. Knight, Jacksonville	Key West, April 8.
Georgia	King P Moore, Macon.	Brunswick, Apl. 16.
Illinois	D. W. Graham, Chicago.	Chicago, May 20.
Indiana..	E. S. Elder, Indianapolis.	Indianapolis, May 14.
Iowa	C F Darnall, West Union.	DesMoines, Apl. 16.
Kansas.....	J. E. Minney, Topeka.	Salina, May 13.
Kentucky .	Steele Bailey, Stanford.	Henderson, May 14
Louisiana	P. B. McCutcheon, New Orleans.	Baton Rouge, May 13.
Maine	C. D. Smith, Portland.	Portland, June 10.
Maryland.	G. L. Taneyhill, Baltimore.	Baltimore, April 22.
Massachus'tts	F. W. Goss, Boston.	Boston, June 10.
Michigan....	Geo. Duffield, Detroit.	Grand Rapids, May 20.
Minnesota ..	C. B. Witherle, St. Paul.	St. Paul, June 19.
Mississippi....	W. E. Todd, Jackson.	Jackson, April 21.
Missouri.....	J. [illegible]. Mulhall, St. Louis.	Excelsior Springs, May 20.
Nebraska. ...	M. L. Hildreth, Lyons.	Beatrice, May 13.
N. Carolina...	J. M. Hays, Oxford.	Oxford, May 27.
N. Hampshire	G. P. Conn, Concord.	Concord, June 16.
New Jersey ..	W. Pierson, Orange.	Schooley's Mountain, June 10.
New York....	E. D. Ferguson, Troy.	New York, Oct. 22.
Ohio..	G. A. Collamore, Toledo.	Columbus, June 3.
Oregon. ..	C. C. Strong, Portland.	....
Pennsylvania.	Wm. B Atkinson, Philadelphia.	Philadelphia, June 10.
Rhode Island	W. R. White, Providence.	Providence, June 12
S. Carolina ..	W. Peyre Porcher, Charleston.	Laurens, April —.
Tennessee, ..	D. E. Nelson, Chattanooga	Memphis, April 8.
Texas	F. E. Daniel, Austin.	Ft Worth, Apl 22.
Vermont	D. C. Hawley, Burlington.	Rutland, June 26. Montpelier, Oct. 9.
Virginia.....	L. B. Edwards, Richmond	Rockbridge Alum Spgs. Aug. or Sept.
Washington..	C L. Flannigan, Olympia.	Spokane Falls,
W. Virginia..	J. L. Fullerton, Charlestown.	May 14. Wheeling, not fixed
Wisconsin...	J. R. McDill, Milwaukee.	Milwaukee, June 4.

Physicians' Books of Account are "Privileged."—A local court has decided that a debtor who is a physician can not be compelled to deliver up his books of account to his receiver, who has been appointed in proceedings supplemental to execution. By the order appointing the receiver, the latter acquired title

*We might add to the testimony thus adduced for the benefit of our learned contemporary, that the "bighead" in America is very prevalent, but is considered a sign of intellectual depravity.—Ed.

to the accounts but not to the books as well. "In the complicated affairs and relations of life the counsel and assistance of clergymen, physicians, and lawyers, often become necessary, and to obtain them men and women are frequently forced to make disclosures which their welfare and sometimes their lives make it necessary to be kept secret. Hence for the benefit and protection of the confessor, patient, or client, the law places the seal of secrecy upon all communications made to those holding confidential relations, and the courts are prohibited from compelling a disclosure of such secrets. The safety of Society demands the enforcement of this rule." For this reason it is held that the physician's account books, containing information which would be privileged as concerns his patients, are not subject to discovery and inspection in an action between the physician and a third person.—*New York Medical Journal*, April 18th, 1890.

Artificial Production of Urinary Calculi.—The results of certain experiments conducted by Ebstein and Nicolaier were presented at the Congress of German surgeons, and are interesting. Dogs were fed with oxamid, an ammoniacal derivative of oxalic acid, and as a result large calculi were formed in the pelvis of the kidneys, and small calculi of a dark color in all parts of the urinary system. The largest had a rough warty surface, were of a pale yellowish grey color, and laminated from the intermingling of some albuminous substance. [This form of lamination in the presnce of a colloid deserves further notice in the light of the observations of Ord, Ranney, Vandyke Carter, and others, but the authors have evidently been most interested in the important question of the relation of calculus to the chemical constituents of the food.—*Cent. f. Chir., L. M. Rec.*

The Ferment of Diphtheria has been the subject of a recent investigation of Brieger, to whom we owe so much of our knowledge of ptomaines. He allowed the bacillus of diphtheria to work its sweet will for a certain time in nutrient gelatin, from which it was then removed and the medium examined for the products of the micro-organic energy. He found early in the research that the poison is split up or otherwise decomposed by exposure to a temperature exceeding 50° C. (122° F.) so that he was obliged to work at 40° C. (104° F.). By evaporation under suitable precautions he obtained a body of enormous toxicity which gave a number of reactions indicating its character to be analogous to that of members of the so-called albuminoid (or phytalbumose) group; it was found to be capable of physiologically producing the same symptoms as the bacillus.—*Chemist and Druggist.*

A Thousand Years of Syphilis.—Virchow's Archives give an account of syphilis as known to the Japanese. It is from a well preserved manuscript of 808, found in a temple in 1827. It is of pure Japanese origin, written in Chinese characters, but not saturated with Chinese notions or philosophical speculations. There are one hundred chapters, the ninety-fourth and ninety-fifth devoted to syphilis. The bubo, the chancre, the œdema preputii, the phagedenic chancre, the exanthemata, the bone and joint affections, the ulcers of the fauces, and the grave tertiary lesions, are each described in a few words. Syphilis was regarded as a specific disease; whether the Japs regarded it as contagious and transmissible by sexual intercourse, is not known. The treatment was herbal.—*Maryland Med. Journal.*

Valude on a New Specific for Malaria.—Panbotano is the name of the new medicament. A decoction of the bark of a tree by that name is used in strengths varying from 7 per cent. in adults to 3.5 per cent. in children. The tree belongs to the *Leguminosæ* family, and flourishes in certain parts of Europe. Villèjean has analyzed the drug, and finds a peculiar tannic ingredient in it, but no alkaloid. The botanical name is *Calliandra Houstoni.* The author has made fifteen personal observations with the drug and finds that generally the injestion of the decoction from two ounces of the bark suffices to cure the case. The author unfortunately gives no details of the physiological action of the drug.—*La France Méd.*, February 21st, 1890.

The Inheritance of Acquired Deformities.—The Mercedi Médical for March 5th quotes M. Dupuy upon this subject. Weissmann, in his treatise, denies the inheritance of acquired deformities, calling attention to the fact that cutting off the tail of many animals has not made their descendants tailless. Brown-Séquard has found, however, that lesions of the sympathetic nerves among animals produce hereditary defects in the offspring. Dupuy has found structural changes resulting from destruction of the cervical ganglia even as late as the seventh generation. The descendants of animals that have been operated upon present, together with ocular difficulties, a remarkable asymmetry of the cerebral hemispheres.

The International Medical Congress, it is believed will attract about 5,000 medical men to Berlin this summer. In consequence of its unexpected popularity, it has been decided to have no general feasting of the whole Congress, but there will probably be dinners for the various sections. There is to be, however, a general reception, at which every one will be treated with beer. I am not quite clear how this feature will be regarded by the high-class

English prescriber. There is an anticipation that the Emperor will be present on the occasion to welcome the members to the delights of science and the tankard.—Berlin Correspondent of *Chemist and Druggist.*

Cremation Advancing in England and on the Continent.—The number of cremations at the Woking Crematory is increasing. In three years, 1884 to 1887, there was an annual average of eight. There were 26 in 1888, while last year there were 46. During the present year there have been several every week. At the new crematory at Paris there were 35 ordinary cremations in 1889, but the number of bodies of still-births, unclaimed paupers from the hospitals, and anatomical residuum, is such that the incineration is going on almost constantly. At Rome, over 200 cremations were practiced in 1888—an increase over any previous year.

Mussanin; a New Anthelmintic.—In the bark of an Abyssinian tree, the *Acacia anthelmintica*, Thiel has discovered a new anthelmintic which has been termed *mussanin.* The anthelmintic properties of the drug are said to be more powerful than those of koussu and the taste is much more agreeable. The powdered bark may be given in doses of from one to two ounces, or it may be administered in the form of an infusion. The author considers that the drug is destined to assume an important position in therapeutics.—*Wiener Medizinische Presse.* February 23d 1890.

The Hygiene of Infants.—The Paris Academy of Medicine has just opened to competition a prize of the value of 1,000 francs for the best work on the Hygiene of Infants. The following is the question proposed: To determine what are, in the artificial feeding of infants, the values and the effects of raw, warmed, or boiled milk, respectively. The papers, which should be written in French, the other Academical rules being observed, are to be forwarded to the Academy before March 1st, 1891.

Ten-minute Headache Cures.—A protest has been made in Philadelphia against the sale of antipyrin, either openly or disguised as a certain headache cure, by the druggists of that city. Many cases are cited in which very alarming symptoms have followed the taking of this "cure," one very nearly resulting in fatal collapse.

Professor of Monotony.—Dr. O. W. Holmes says it is not true. The poet-physician has had it brought to his notice that a learned small girl of Boston has spoken of him as having been for many years a "Professor of Monotony at Harvard University."—*Journal Amer. Med. Association.*

The Alleged New Disease, "La Nona," which has been reported to be prevalent in Italy, is said not to be anything new at all. The cases on which the report was based were probably those of some peculiar results of the "grip."—*Med. Record*, April 19th, '90.

Dr. G. Frank Lydston has been invited to deliver the opening public address at the Ky. State Medical Society, Henderson, Ky., May 14th. Subject, "Materialsm *vs.* Sentiment in the Study of Crime."

The University of Pennsylvania.—Dr. H. A. Hare, the editor of the Medical News, has just been appointed Clinical Professor of Diseases of Children at the University of Pennsylvania.

Therapeutic Brevities.

The Topical Treatment of Diphtheria.—The question of the propriety of interfering in any way with the diphtheritic membrane is one of the many, as yet, unsettled points in therapeutics. There are still many who regard an attempt to lessen the amount of the membrane by topical applications as injudicious in the extreme; yet the tendency seems at the present time, under the influence doubtless of the microbic theory, to return to local treatment. We do not propose to review the subject of the topical treatment of diphtheria, or even to give a list of the numerous substances that have, from time to time, been employed in the hope of dissolving the false membrane. We desire to direct attention to the use of pure salicylic acid for this purpose, as has been proposed by Dr. A. W. Nelson, of New London, Conn., who reports in the Journal of the American Medical Association a few cases successfully treated in this way. He applied powdered salicylic acid to the membrane, when the latter was accessible, and believed that he had good results therefrom. The powder in some instances caused a little stinging pain at first, but this almost invariably disappeared after the use of the remedy had been persevered in for a time. Where the remedy was applied, the membrane seemed to become thin and finally to disappear, returning again if the applications were too early discontinued. No irritation was produced to the healthy tissues beyond slight smarting when the acid was first used. Dr. Nelson regards the remedy as superior to iron applications, as the latter harden the membrane, while the former acts as a real solvent, and at the same time is an efficient antiseptic. It would seem to be worth a more extended trial than the author has yet given it.—*Med. Record*, April 19th, '90.

Pennyroyal as an Emmenagogue and Abortifacient is much advertised in sporting and other lay journals, and is extensively used by married women in some localities. Dr. A. D. L. Napier writes to the British Medical Journal a letter bearing upon the question of limiting its sale by law. He says: "It appears that

the therapeutic action of pulegium as an emmenagogue is very imperfectly known. The drug is used very freely by many married women to hurry on delayed periods. One lady told me that she always kept a supply, and took large doses if the menses did not come on. She was much distressed to find that the drug failed to have the desired effect on the occasion I saw her, and added: 'My sister in-law takes it regularly when she passes her time, and invariably finds the period to come on in three days.' I made some inquiry regarding the practice, and find that among many classes it is recognized as a tolerably certain abortifacient, and esteemed as less hurtful than aloes, savine, cantharides, ergot, elaterium, croton-oil, black hellebore, squills, or even borax. At the same time it is very questionable if any of these drugs can be regarded as absolutely certain to interrupt gestation. Given a healthy embryo in a healthy and normally placed uterus, it is by no means easily injuriously affected. But if by causing irritation or congestion of the uterus an early abortion is once procured, it is very probable that the process may be repeated indefinitely. I cordially agree with the suggestion that greater precautions should be enforced regarding the sale of such drugs "

Operative versus Therapeutic Treatment of Strumous Glands.—Mr. Bertram Thornton read a paper on this subject before the West London Medico Chirurgical Society. He alluded to the records of the last fifty years at the Royal Sea Bathing Infirmary, Margate, which testified to the unsatisfactory and tedious methods of treatment prevailing up to within the last few years. Having reviewed the various modes of treatment of enlarged glands in their different stages, such as erasion, by poultice, iodine painting, mercurial ointments, calcium sulphide, etc., injection of various drugs, and applications of strong caustics, he pointed out that whatever action these methods had on the diseased glands, the process was very tedious and uncertain, and the resulting scars most unsightly. An operative experience of about a hundred cases of various degrees of magnitude, led him to urge the excision of *every enlarged gland* or part of a gland after a reasonable period—say six or eight months—of constitutional treatment and change of air at the seaside. Modified operations, such as scooping, aspiration, small punctures with drainage, were nearly always unsatisfactory, as diseased gland-tissue was left behind. Hitherto he had, fortunately, had no death or serious complication to record, and the vast majority of cases had healed rapidly. He claimed for the method of excision, that many months of tedious treatment were saved, the resulting scars were less unsightly, and that the operation, if performed with skill and care in good hygienic surroundings, was usually satisfactory.—*Med. Press and Circular.*

Paraldehyd in Inebriety.—Dr. Gordon, Professor of Materia Medica of the University of Aberdeen, recently studied the action of paraldehyd, and reached the following conclusions: As a hypnotic in all cases of cerebral disease and nervous irritability, its action was prompt and prolonged; no stage of excitement, and no headache, depression, or indigestion followed its use. While it diminished the frequency of the heart's contractions, it seemed to strengthen the beats. It is not a cardiac depressant. It has no marked period of toleration, and has been given for months with equally good results. No marked craving for the drug has ever been been noticed from its long use. In many cases it is a laxative for the bowels. An increased secretion of urea follows its use. It does not have any effect on the temperature. The reflex excitability of the spinal cord is rapidly diminished. The peripheral nerves are also markedly controlled, and the motor nerves are influenced profoundly. In large doses, complete narcotism of the nervous system follows. From this it will be clear that as a narcotic, when alcohol or opium is taken away, it has a peculiar value. At present, the use of it is difficult in persons who have a sensitive stomach, and some art is required to disguise it so as to be palatable. Paraldehyd comes very near being a perfect remedy for the insomnia and neuralgia that follow the withdrawal of opium and alcohol.—*Quarterly Journal of Inebriety*, April, 1890.

A Remedy for Palpitation.—In the Revue Générale de Clinique et de Thérapeutique for March 19th, Dr. Gingeot suggests as a valuable remedy for palpitation—one that has proved serviceable to him—the application of cold to the precordial region. Attention must be paid to the method of applying cold. The simplest plan of all is to apply a wet sponge over the region of the heart in the morning before dressing. At night, when in bed, the patient or an assistant may put a cold compress over the heart, well covered with dry bandages to retain moisture and prevent any wetting of the clothing. When this compress is warm, the patient may remove it, and will probably fall asleep. There are objections to the ice-bag, one being the condensation of insensible perspiration upon the surface of the skin. The ether spray is a simple and convenient method of refrigeration. With proper instruction as to necessary precautions in the use of ether, the patient can apply cold in this way at any hour of the day or night. Palpitation of purely nervous origin seldom fails to be greatly benefitted by the application of cold; and a certain success often follows its use in cases of palpitation due to organic disease. Equalizing the heart's action will often prevent an increase in its size. It is also useful in aneurysm and passive dilatation.—*N. Y. Med. Journal.*

Hypodermic Injections of Chlorodyne in Diarrhœa.—Dr. Cimbali, of Rome, in writing in the Riforma Medica, remarks that in serious forms of certain infectious maladies (as, for example, enteric fever, pneumonia, malaria, etc.,) an uncontrollable kind of diarrhœa sometimes occurs, which, besides being a great annoyance to the patient, always aggravates his condition. The profuse diarrhœa, in which the stools amount to twenty or thirty per diem, is usually met with in severe adynamic forms of infectious diseases, and is, moreover, a sign of a highly infectious condition. It is impossible to moder-

ate it either by astringents or by the strongest excitants. In many cases, however, he has successfully employed hypodermic injections of chlorodyne. Fifteen grains of chlorodyne are injected, and if this is insufficient, the injection can be repeated five or six hours later, unless it is one of those diarrhœas which is the immediate forerunner of the death agony. As a rule, however, after the first injection of chlorodyne the number of stools rapidly diminishes, and the patient experiences great relief. Two or three injections during the twenty-four hours suffice to check, or at least to moderate, them.*

"*Pulmonary Consumption in the Light of Modern Research.*"—Stephen Burt Smith, M. D., in N. Y. Medical Record, thus concludes a paper on this topic: Phthisis pulmonalis is an infectious disease, only the soil must be fertile, or the bacteria will not take root and grow; that the inheritance of the affection is simply the descent of the degraded cells presenting a vulnerable point for a possible encounter with the vagrant germs. That all specific treatment is futile, in view of our present knowledge; and though persistent destruction of the infectious matter is our best means of prophylaxis, yet to restore the vitality of the lung tissue is as important as to destroy the tubercular bacilli. And, moreover, not a few cases of phthisis have a self-limitation, which is a comforting thought for whoever is afflicted, while, at the same time, it is a disquieting reflection for the numerous noisy advocates of the very latest unfailing remedy.

Antipyrinism.—Under the head of correspondence, in answer to a question from apothecary L. in C., the Pharm. Centralhalle quotes the following from the lecture of a celebrated Paris clinician.

"As I am now touching on the medical anodynes, I am prompted to speak of a very promising name,—that of antipyrin. It also performs wonders in cases of great nervousness, and is also lauded by the sufferers. But do not forget that the nervous activities cannot, with impunity, be frequently disturbed by a chemical substance, even if these activities should have resulted in a very violent pain. Five years ago, I warned you, Beware of cocainism! To-day I bid you beware of antipyrinism!"

Treatment of Masturbation.—A correspondent of the British Medical Journal writes: There is a plan of treatment apparently little known, but completely successful in cases in which the habit is a nocturnal one. A "cage" is carefully fitted over the genitals by an instrument maker, and kept in place by straps, which are secured by small locks. In the case of children, the parent keeps the keys. It is equally valuable for older youths, or men, who unwillingly find themselves overpowered at night. In such cases, the key, after locking the straps, is placed some distance from the bedside, and before it can be used the temptation has passed.

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* In this country, chlor-anodyne, the unprotected improvement upon chlorodyne, is more universally employed.

Medical Progress.

EXPERIENCE WITH TWO LAXATIVES, CASCARA SAGRADA AND GLYCERIN.—Dr. Raphael Hirsch, in Internationale Klinische Rundschau, page 414, No. 10, writes as follows:

Cascara sagrada, the bark of a species of buckthorn, *Rhamnus Purshiana*, indigenous to California, was first employed with success by Dr. Bundy, of Calausa, California, who saw it employed as a laxative by the natives. The chief credit however of having obtained further recognition for the remedy in medical practice, is due to John Farlow. Supported by many years of experience, he recommended it as a sure and painless laxative, promoting appetite and digestion, not tasting unpleasant, and possessing a special advantage in that the employment of the remedy does not create a habit, nor require an increase of the dose after prolonged use; finally, in many cases, under gradual reduction of the doses, habitual constipation is cured. The application of the remedy is indicated first of all in habitual constipation, in torpid stools resulting from gravidity, puerperium, uterine affections, hæmorrhoids, and in inflammatory affections of the rectum, such as fissures, in which through the access of soft masses, a diminution of congestions and pains is achieved. As contra-indications of administration, acute diseases, especially of the digestive tract, seem to be recognized. Cascara sagrada is most conveniently prescribed in the form of the fluid extract manufactured by Parke, Davis & Co.,—10 to 15 drops before each meal, and before retiring. In the absence of results, which should follow the next morning in the form of an abundant evacuation, the dose should eventually be increased to 20 or 25 drops, to be again reduced to 10 and even to 5 drops, as soon as more than one passage daily ensues. After prolonged use, the remedy may be quietly discontinued, inasmuch as thence-forward regular, spontaneous evacuations will be frequently observed. In subsequent relapses of constipation, cascara sagrada acts in the same favorable manner. For especially sensitive patients, to whom the bitter taste is unpleasant, it is well to mix the fluid extract with glycerin and water, equal parts, or with succ. liquirit. For the preparation of pills, the solid extract of cascara sagrada is adapted, of which 2 to 3 pills of 0.06 each are to be given. During the last few years, cascara sagrada has made its way amongst us, and it seems, indeed, in many cases to fulfill what Farlow promised for it. It is not infallible however; and in our experience, precisely the more difficult cases of chronic constipation, seem to bid defiance to cascara sagrada as to other medicaments. Here more energetic measures would be in place, such as mechanical therapy, which to-day promises to play an important rôle in general, as well as specially in the treatment of chronic constipation.

Glycerin—recognized by Anacker to be the chief constituent of the well known Oidtmann's purgative—was applied to the rectum by Anacker more than two years ago in the form of a minimal clyster of about 50 drops, by means of a small syringe provided with an "olive," as a certain and painless purgative.

These observations were soon, thereupon, confirmed by a series of reports, giving prominence to the surprising and, in most cases, quickly ensuing effect of the injections of glycerin drops. Seifert praises it as especially serviceable in juvenile practice. Gerstacker advises that the syringe be provided, for the sake of greater convenience, with a rubber tube ½ m. smaller long, "because it renders the patient independent of others' assistance." Boas found, however, that the employment of a syringe in many cases, (especially with sufferers from hæmorrhoids, or with individuals possessing an irritable rectum bleeding on slight provocation,) is exceedingly disadvantageous, so that in many cases he was obliged to suspend and even to give up the application of glycerin for days. He thinks, besides, that the application of the syringe is connected with too much detail. For the same purpose he therefore recommends glycerin enclosed in suppositories of oil of cacao. As is stated, among others by Kroell, this mode of application affords considerable advantage over the syringe, and it would seem that in time the latter will be altogether superseded by the former. To be sure, the employment of the syringe has the advantage of greater cheapness. In the very recent past, Schaffer brought forward a new simplification, recommending common glycerin soap, "which possesses an almost equally pleasant and rapid action, is of the lowest cost, and to many patients, in other respects, leaves nothing to be desired." Every patient can make such suppositories at pleasure, readily producing from the very plastic glycerin soap the proper cones, which may at once be employed either dry or slightly moistened. The difference in price is naturally considerable, inasmuch as one of the cones, prepared "*lege artis*" costs 7 to 10 kreutzers, while 50, 80, and 100 of the suppositories may be prepared, in accordance with the size, from a piece of glycerin soap, for 10 to 25 kr. If these economical glycerin suppositories should prove permanent, there would be no simpler, less injurious and cheaper laxative. With respect to the physiological action of the glycerin as a laxative, Anacker and v. Vamossy believe it possesses the property of withdrawing moisture from the tissues. Reisinger disputes this on the basis of several experiments, and is of the opinion that the glycerin, in a different manner, reflexly, promotes a more lively peristaltic action of the intestines. It is, however, certain that only when fæces are present in the large intestine, are certain results to be expected from the rectal application of the glycerin. The employment of glycerin seems to have no contra-indications—at least not in the form of suppositories which are alone to be recommended, whether they be prepared by manufacturers or are of the economical character last described. Indications for their employment are certainly present, "where, together with the constipation, stomach troubles are present, and where the chemical energies prove to be insufficient."

Insomnia Among Children. — Sleepless children have a champion in Dr. Jules Simon, who takes up their cause in the pages of the Revue Mensuelle des Maladies de l'Enfance for March, 1890. The problem of too-wakeful childhood, he says, taxes the ingenuity of the physician to the utmost, arising as it does from many causes, and constituting a prominent symptom of diverse pathological conditions. The new baby's sleep is intermittent. Every two or three hours it wakens, because of hunger or thirst. Even night sleep is not continuous, though more profound and of longer duration. If the infant sleeps too much or too little, something is wrong. Insomnia is a marked symptom of early syphilis in children, as characteristic as the coryza and rash, and normal sleep returns only when sufficient mercury has been absorbed and assimilated. Indigestion is a potent cause of wakefulness among the innocent. These are often fed too frequently and with improper food. Medicine is useless. Hygienic nourishment is the only hypnotic that meets the indications. There is, however, the hyperæsthetic baby, always alert, with eyes forever open, and who can only be quieted by a good dose of something. This alarming infant is essentially a nineteenth century outcome.

The little sufferers from beginning hip joint disease, sleep no more till the leg is immobilized, codeine and chloral affording only temporary relief. The insomnia of broncho-pneumonia in children, is best relieved by the application of a fly-blister, a remedy that makes the ignorant laugh. At once respiration becomes less frequent, oppression diminishes, and the little one sleeps. The most varied measures bring about this consummation devoutly to be wished, under different circumstances. And any agent will fail when it is not indicated, as it does everywhere in the practice of medicine.

Ætiology must ever be kept in view. The causes of childish insomnia are legion. Among the new born, Dr. Simon places dyspepsia first on the list, and acute cerebral congestion—due to some kind of exposure—next. A beginning meningitis, cerebral tumors, and hydrocephalus, have wakefulness as a symptom. In later childhood, headache produces the same result —the headache of growth and overwork. Many of these headaches are really manifestations of latent rheumatism. The neuroses of childhood, such as hysteria, chorea, and epilepsy, produce wakefulness. This is sometimes the only evidence of epilepsy, and expresses itself in a peculiar way: The child goes to bed well, wakes with a cry from profound slumber, sits up suddenly in bed, and then falls back again, either to sleep after a short interval or to lie awake weak and prostrated. Sleepless or wakeful chorea is a serious affair. Rheumatic conjunctivitis, earache, catarrh extending into the frontal sinuses, urticaria, itch, etc., are frequent and obvious reasons for sleeplessness. Not so hernia or displaced testicle. The rarity of these conditions make them overlooked, though they exist oftener than is supposed, the symptoms they give rise to being referred to the digestive tract or the nervous system. Naturally, the whole range of nervines and digestive tonics fails to do what a simple bandage can accomplish—bring about normal sleep. The exanthematous fevers have sleeplessness during some part of their course as an accompaniment. So also malarial fevers, especially of the irregular type, when the child wakes suddenly in the night with pain in the head and vomiting, without fever or chill. Quinine cures this kind of sleeplessness. Unrecognized

albuminuria is another reason why repose is disturbed; and this disturbance may precede uræmia. The diphtheritic patient in whom the disease has murdered sleep, is in the gravest danger. Among children of six or seven, wakefulness is one of the protean expressions of lithæmia. It is often accompanied by intense headache and profuse perspiration. And last, but not least, the indiscretions of the mother or wet-nurse are potent causes of the wakefulness of early infancy. Alcohol, tea, coffee, salted foods, condiments, and spiced meats may act as poisons to the baby when they pass into the milk that is its food. Strong odors, good and bad, may also keep little ones awake, for they are powerful excitants in the young.

The most careful regulation of a child's life, the most patient inquiry into the details of its every-day career, are matters worthy of the best physician's learning and skill. Grown persons are badly spoiled as a rule, and not much can be done but patch them up and let them go; but with children the case is more hopeful.—*N. Y. Med. Journal.*

Diastasic Food and Its Uses.—Having made several complete chemical tests of the diastasic food, and having found that it completely removes every trace of starch from any food, I very quickly put it to the further test of assisting the digestion of starch in the stomachs of invalids. In the first place, having been thoroughly disgusted with the number of diabetic foods that are on the market, I determined to try the efficacy of the diastasic food. I have now tried it in three cases, and have found the sugar to disappear in each case rapidly and totally. In one case in particular, occurring in a lady of thirty-four years, after she had been cured and the sugar had ceased to appear in her urine, she was subjected to extreme grief. I examined her urine again, and, of course, was extremely anxious, but, notwithstanding the terrible strain upon her nervous system, there was no reappearance of the sugar. The three cases were all in persons comparatively young—that is, in the prime of life—and in each case the history pointed to mental anxiety and worry as the ætiological factor. The only medication used with the diastasic food was hypophosphites of lime and soda with phosphoric acid; but the disappearance of the sugar in the urine was manifestly due to the food, because in each case it disappeared rapidly under its use, and only slowly before, while under the hypophosphites alone. I can not too strongly recommend its use in diabetes, as theoretically and practically it meets every requirement in combating this disease, because not alone can you permit your patient to use amylaceous food, but he or she will almost certainly gain in weight and strength during your treatment. The effect upon the respiration will be at once apparent, as you have the hydro-carbons pushed rapidly to elimination by the lungs during the use of this artificial diastase, and, no matter what may be the differences of opinion as to the ultimate uses of carbo-hydrates or hydro-carbons in the human economy, all will testify to the good effects produced by the rapid disappearance of carbonic-acid gas between the right ride of the heart and the lungs.

Having demonstrated that artificial diastase will serve the same purpose to starchy food as pepsin does to nitrogenous food, it was but a step on my part to push the experimentation still further and administer the food in cases of rheumatism. Modern opinion, I think, will sustain the belief that both gout and rheumatism are largely due to a deficiency of power to take up and push to their ultimate destiny the amylaceous elements of our food. I put the diastasic food to the test and found that it worked in a very favorable manner, but the proof of its efficacy takes a much longer time than in diabetes, as if there were other elements that make the disease complex instead of simple; and no doubt this may be a correct solution, because there are certainly more causes than one in producing lithæmia. Let that be as it may, the food is certainly worthy of praise for its power in a certain number of cases of rheumatism or gout.

In conjunction with these experimental researches, I also administered the diastasic food to several consumptives. Anything that will induce super-alimentation in phthisical processes, is the panacea for this disease, get it how we may, and herein the food proved itself a powerful auxiliary. At one blow you deliver your patient from the gaseous eructations after eating, you in every way ameliorate the conditions of the bowels, and you supply the carbonic-acid gas which, by its rapid elimination, promotes lung power and elasticity of the chest walls. In the summer diarrhœa of infants it is, on the foregoing grounds, very efficacious. It not alone contains within itself the elements of its own digestion, but also rapidly gets rid of any undigested starch that may be in the stomach of the infant when the physician is called. This is but a short *resumé* of how very materially this food has helped me in a number of cases, and how it bids fair to assist us greatly in some diseases which are more errors of nutrition than diseases *per se*.—Dr. Robert Ormsby, in *N. Y. Med. Jour.*

Septic Peritonitis.—Many fevers, now distinguished from each other, were once held to be one and the same disease. The process of pathological specialization has made such advances, on the strength of sound scientific evidence, that even the term "septic peritonitis" is now held to confound two or more distinct diseases under the same name. Learned papers on the subject are hard for any reader not an expert to follow, and experienced operators are seldom eager to acknowledge pathology and bacteriology as their chief guides. Professor Bumm, of Würzburg, has, however, lately brought out an intelligible communication "On the Ætiology of Septic Peritonitis." It will be found in the January number of the Annales de Gynécologie. Dr. Bumm's valuable researches into the nature of the specific germs of tubercle and other diseases are well known. He distinguishes three forms of inflammation of the peritoneum, viz: aseptic, septic, and specific peritonitis. The first is developed through the agency of mechanical or chemical irritation; it generally ends in fibrinous exudation, and adhesions between different abdominal structures are thus established. The septic form of peritonitis includes two distinct

varieties, one due to the streptococcus, the other simply putrid. Streptococcus peritonitis appears to be a very definite malady. It is almost invariably the result of puerperal infection. The germs reach the peritoneum, from their origin in the genital canal, either through the Fallopian tubes, or through the uterine walls and surrounding lymphatics, The fluid in the peritoneum, when death occurs very soon after infection, is clear and free from odor, but loaded with streptococci and intensely virulent. A minim, or less, injected into the peritoneum of a rabbit, will rapidly set up deadly peritonitis. The physical symptoms are little marked; the intestines are greatly distended, but their serous coat remains white and smooth, and patches of lymph are few, and pale in color. When death occurs after the disease has lasted for two or three days, the fluid in the peritoneum becomes puriform and far less deadly to other organisms. The familiar morbid appearances are plainly marked.

Streptococci cultivated apart from the fluid developed in peritonitis are also not very deadly. No doubt, men who do not believe in germs will on that account contend that it is something that comes with the germs that causes such disastrous results. The germs do the least harm when introduced without any fluid, or when they have dwelt for some hours or days in peritoneal fluid. According to strict scientific evidence, however, it appears that the greatest harm arises from the combination of streptococci with exudation thrown out in the earliest stage of peritonitis. The streptococcus disease, as we may term it, may attack patients on whom abdominal operations have been performed, through infection which is probably always derived from a puerperal case. As a rule, however, the disease which follows abdominal sections or perforation of the alimentary canal is "putrid peritonitis." In this variety the exuded fluid is from the first fœtid and turbid. It contains, not one specific germ, but a mixture of germs. It does not set up peritonitis if injected into the peritoneal cavity of rabbits in small quantities. In cases of putrid peritonitis the mixed germs lie in a favorable medium and multiply with rapidity. They are then able to set up a wide-spread decomposition of the fluid in the peritoneum. Hence this disease progresses slowly, going from bad to worse, whilst the streptococcus variety begins with symptoms of extreme virulence.

Of specific forms of peritonitis, the tuberculous is the most distinct. According to Dr. Bumm the existence of a gonorrhœal peritonitis is doubtful. Gonorrhœal pus poured out of a ruptured tube into the peritoneum seems to act as an aseptic fluid provided it be pure, and becomes encysted. When mixed with pyogenic germs the case is different, and septic peritonitis may follow.—*British Med. Journal.*

TREATMENT BY SUGGESTION.—Little by little the study of the therapeutics of hypnotism is gaining ground among the profession, after having excited a great deal of attention abroad, more particularly in France, and in spite of the diffidence with which all new methods of treatment are regarded until their importance forces a path into the medical *arcanum*. Without in any degree having penetrated the mystery with which the curious manifestions of hypnotism are enveloped, we are in possession of a large amount of information bearing on the induction of this condition and its application to curative medicine. Some interesting experiments recently recorded by Dr. Milne Bramwell and others, demonstrated *de novo* a fact already generally known, that it is possible to perform minor surgical operations, usually entailing no small amount of pain, without the knowledge of the patient. This, however, is only one of the numerous applications of the mental condition thus induced, and a pamphlet just published by Dr. C. Lloyd Tuckey, at a very opportune moment deals with the wider field of possible usefulness opened out under the head of "Treatment by Suggestion." Hypnotism consists, apparently, of an abnormal concentration of the mind on one point, consciousness being abolished for everthing beyond. The practical difference between natural and hypnotic sleep consists in that, in the former, speaking to the sleeper causes a return to consciousness, whereas in the latter it has a soothing effect and maintains quiescence. Dr. Tuckey assumes that during the hypnotic sleep there is an accumulation of mental energy which can be directed at the will of the operator, hence nervous channels which are blocked to ordinary impulses sent from the brain, may yield to the extraordinary impulse resulting from an accumulation and concentration of nerve force. He accounts in this way for the rapid production of local congestion and the sensation of warmth which is noticed by patients in any part to which attention has been drawn. It also accounts, according to the author, for the success of the treatment in paralysis of long standing. The hypnotic sleep may be induced in every degree of intensity, varying from an almost imperceptible effect—so slight indeed that the subject is unaware of the change—to the deepest unconsciousness. Good results in treatment are said to be obtained even when there has been no loss of consciousness, only the susceptibility to impressions, and the volitional concentration being enhanced. The suggestive method, we are told, is especially applicable to chronic complaints, and the number and variety of the disorders claimed to be amenable to its influence are fairly large. As the list comprises such affections as writer's cramp, railway spine, hysterical amaurosis, and similar conditions in which ordinary measures are not usually conspicuously successful, it may be worth while for the sufferers to give it a trial. The most brilliant successes, however, are claimed to be in the treatment of the so-called neuroses, epilepsy, chorea, asthma, and the like, and if the results are as stated, then hypnotism has a future before it. The argument that hypnotism is dangerous because it is capable of abuse, is simply absurd, seeing that the same remark would apply to the use of anæsthetics and narcotics generally. It is only likely to be abused in the hands of irresponsible persons, and, as Dr. Tuckey points out, the best guarantee against the abuse of hypnotism will be its recognition as a branch of medical treatment, and its *affranchissement* from the monopoly at present enjoyed by itinerant quacks.—*Medical Press*, April, 1890.

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Original Articles.

PATHOLOGY AND THERAPEUTICS OF THE PUERPERAL STATE.*

BY L. H. CORR, M. D.

For convenience, I divide the condition of gestation and delivery into two stages: From conception to the time of delivery the *gravida:* That including delivery and until complete natural involution of the uterus and vagina—about a month in duration—the *puerpera*—both terms used by Barnes.

The gravid period in some women, from the very commencement of conception to full term, is one of invalidism; but in the majority there is much better development of the whole physical make-up than before, so much so, that often an existing consumption is stayed in its progress, and (more rarely) even cured.

Physiologists agree that the condition of the gravida is one of comparative anæmia with increased nutrition—that is, while the blood corpuscles and albumen are diminished, there is an increase of all the other nutritive elements, and of fibrin and water; or, in the language of neurology, while there is a diminished quantity of red blood corpuscles, there is increased activity of the trophic nerve centres.

With these conditions there is increased excitability—irritability or susceptibility—of the nervous system, of vascular tonus or tension of the circulation; and the pulse is full and strong. With these conditions there also exist all those necessary to the special growth and development of organs suitable to the endo-genetic process of reproduction: The abdomen becomes gradually distended by internal expansive force, so that, besides its ordinary contents it contains an organ seven and fourteen inches in its respective diameters, the muscular fibres of which (ordinarily almost microscopic in size) become largely developed; also the small venules and arterioles become large and tortuous sinuses. The whole circulation has increased tension because of the size of this organ alone.

In this organ, the uterus, is growing a new being calling for a greater supply of nutrition, and greater constructive energy on the part of the mother: Additional constructive pabulum must be provided for by her circulation; all her constructive, disintegrative, and eliminative activities must be quickened; and her mental and intellectual equilibrium, so necessary to properly impress her offspring, must be maintained.

All this must go on at gradually accelerated speed, from the moment when conception begins to the hour of the expulsion of the fœtus—until the gravid state has ended in the initiation of the puerperal. Superadded to all the conditions of the gravida at the initiation of the puerperal state, are those of mental anxiety, pain, muscular exertion, crampings, tenesmus, dilatation of tissue, stretching of parts, irregularity of circulation, abrasions, lacerations, the creation of thrombi by the sliding of tissue on tissue and rupture of blood-vessels,—all in accelerated degree—until every muscle and nerve, and all energy, culminates in the throes which expel the fœtus. All the constructive and nutritive material and energies so necessary up to the instant when the placenta is separated, are at once whirled with velocity into requirements for exertion, disintegration, and the repair of traumatic injuries.

With the loss of a greater or less amount of blood and the expulsion of the distending body from the abdomen, passes the condition of vascular tension peculiar to the gravida, and there is substituted instead one of vascular flaccidity and mechanical osmosis. The system is now full of waste material. There are lacerations and abrasions to heal, thrombi to absorb, a large muscular organ to reduce to its former proportions by process of what has been called "fatty degeneration;" even the site of the placenta has been, and most fitly, compared to a recently amputated stump—(Cruveilhier and Ferguson.) And yet there is a deficiency of red corpuscles—the physiological oxygen-carriers—which are so necessary for these repairs.

Now we have every suitable element for the development of septicæmia. One can imagine no more perfect arrangement for the empoisoning of the system by the absorption of decayed and decaying blood. We have here the conditions for three different modes of infection: The abundant waste material, the thrombi, with diminished nutrition, diminished red corpuscles and consequent insufficient oxygenation, are sufficient for endo-genetic infection, and with decaying discharges added will cause exo-genetic sepsis or toxemia. These conditions tending to auto- and exo-genetic infection,

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are also most favorable for hetero-infection, or that from the hands or instruments of the attendant. There is a reasonable doubt in my mind that the nervous and mental excitabilities of the gravida change equally rapidly with the circulation, else the mania which I have seen arise at this period is not strictly a puerperal disease.

In the therapeutics of the puerperal state, I will confine myself solely to prophylaxis.

The gravida should be instructed how to develop and prepare the nipples for the severe drawing and maceration to which they are to be subjected. Frequent exposure to moisture and drying, with manipulation, should be ordered. It matters not what liquid be used; it is the wetting and drying that hardens them. Pressure by clothing should be avoided except such as is sometimes required to support a large or pendulous breast. Every restraint should be removed from the waist and abdomen. As a general rule, the gravida needs no medication unless for intercurrent affections. When this is the case, there are cautions which should be remembered. The susceptibility of the nervous system and increased tension of the circulation, indicate a more liberal use of the arterial and nervous sedatives, and a guarded use of remedies which may increase the excitement of either. In the latter connection I would mention, ergot, digitalis, nux vomica and its alkaloids, because of their known property of increasing vascular tonus, which would tend to produce apoplexy of the placental circulation, or cause other injuries due to high vascular tension. Through fear of exciting mental or other nervous disturbances, I would use with caution only, cannabis Indica, belladonna, stramonium, alcoholic medicines or tinctures in large amounts, or nitrite of amyl.

From the fact that long protracted diseases, especially of febrile nature, tend to deteriorate the blood globules as oxygen carriers, and thus prove hazardous to the life of the fœtus, it is judicious during such attacks to use as preventive and corrective remedies, potassic chlorate and hydrogen peroxide, and also to provide an abundant allowance of fresh air. If depletion by bleeding is demanded, it should never be carried so far as to produce syncope, for fear of embarrassing the fœtal heart. If emetics are indicated, the more mild ones are preferable, to the exclusion of the violent or perturbating class. Cathartics require more than ordinary caution in selection, since anything like a drastic effect that tends in the least to produce tenesmic action is apt to initiate uterine contraction. Aloes and podophyllin are of this class, and mercury when acting under its constitutional effect. Calomel given as a cathartic only, rhubarb, magnesia and soda sulphates, bitartrate of potash and euonymin, are not so objectionable. The terebinthinate diuretics—juniper, savin, cantharides and some others,—in addition to causing an increased excretion of urine, very strongly stimulate the mucous lining of the whole urinary apparatus, creating an irritation that is apt to be conveyed to the uterus, hence should be avoided; almost any of the alkaline diuretics, spt. nitre dulce, and some preparations of the water-melon—the active principle of which I trust some chemist will soon isolate for our benefit—are preferable. Digitalis is objectionable for reasons given above.

To allay any symptom of commencing uterine contraction, opium (in some form) is undoubtedly one of the best and most reliable remedies; and in the highly plethoric, suitable diuretic, diaphoretic and laxative agents should be combined. After the urgent symptoms have been relieved, it will be well to place the patient upon the daily use of viburnum prunifolium, which acts as a direct sedative to uterine muscular fibre, and to continue it several weeks. Iodoform, per rectum or vaginum, is also an excellent indirect uterine sedative.

For congestive headaches I have a good word to say for phenacetin and salol, separately or combined, in from three to five grain doses. To correct the acidity of the stomach, from which most women suffer during the latter part of gestation, I often recommend ten grains of carbonate of soda in capsule with each meal.

To correct the general excessive nervousness of the whole stage of gestation, nothing is better than sunlight, outdoor air, and useful occupation both mental and physical. Idleness and inactivity are detrimental, though excessive physical fatigue and mental worry should be avoided.

As the gravida approaches the puerperal state, especially if a primipara, she should be informed in a general way how it may be known that labor is approaching, how it is initiated, and in what it consists. This is due to enable her to be more tranquil at a time which will tax her credulity and hopefulness most severely. She also should be informed that, while probably seventy per cent. of all labors terminate happily, yet any stage, even when progressing naturally as far as can be told, may change in a short time, so that nothing but the most skillful management can prevent disaster to either the mother, the child, or both; as such changes are many times too sudden to admit of calling skilled assistance, none other should be in attendance.

A large, well-lighted and well-ventilated room should be chosen for the patient, even if it has to be the parlor. It should by no means be the little bedroom. Labor also to impress patient, nurse, husband, mother-in-law, and all with whom the patient is surrounded, that there is *absolutely no danger in admitting fresh air*,

and plenty of it. The condition called "cold" that is so often ascribed to fresh air, is oftener due to the modes of infection mentioned before.

It is not my intention to speak of complications requiring anæsthetics, instruments, or mechanical interference, but only of those means that will prevent disease during the puerperal state, so far as lies in our province: First, the most scrupulous cleanliness should be observed in all that pertains to the person and bed of the patient: Second, the fingers and hands of the physician should be so cleansed as to remove every possible source of infection.

The saturating of the bedding is always a cause of apprehension, and one that the nurse may neglect to remove, hence a rubber sheet, pitch-paper, or some water-proof material, should be placed on the mattress, *underneath* sufficient padding to absorb all discharges, which padding should be removed, to our certain knowledge, before leaving the patient to her nurse or others.

As soon as possible, also, to insure tonic contraction of the uterus and prevent after-pains, or more properly speaking, the condition which causes them, I would give arom. sulph. acid and fl. ext. ergot. I have never regretted following this procedure, but have regretted *not* doing so.

When the fœtus is expelled, the condition of the uterus in relation to the placenta should be ascertained. If not firmly contracted, with or without the placenta, there is no better method of procedure than that of grasping and kneading, to cause contraction. This insured, tie and sever the cord. The placenta should be immediately removed from the vagina as soon as it is expelled from the womb, as its detention there is a frequent cause of sub-involution of the vagina, of after-prolapsus of all degrees, and of rectocele and vesicocele.

The placenta should likewise be removed from the uterus as soon as its detachment can be determined, when a temporary binder may be applied to the abdomen to supplement the pressure to which the abdominal blood vessels have been accustomed.

All soiled clothing should be removed at once, and the patient made dry for her temporary rest; this period of rest must vary with the condition of the patient. Then, if necessary, an entire change of clothing must be made, with care to scrupulousness and neatness. It is desirable also to add to the permanent binder a "T," to hold the absorbent pads against the vulva; I always insist upon this, because I desire to insure freedom of movement for the patient, and at the same time prevent soiling the bed with the lochia. A favorite custom of mine is to pass a large bed-pan under the hips, and lightly syringe the vagina and thoroughly irrigate the bruised and swollen vulva, adjust the pads, and put the child to the breast, before leaving the mother to the care of the nurse. Suitable doses of ergot, to which, if desired, digitalis can be added, may be given at intervals until it is certain the process of involution is established; this will assist in maintaining vascular tonus and the prevention of absorption, and at the same time promote elimination, and thus usually prevent after-pains, though occasionally opiates must be added.

If the bowels have moved well immediately before or after labor, no attention is needed until the third day. If no opiates have been used thus far, an injection of a little warm water to which glycerin has been added, will be sufficient, and is preferable to any other method.

The vagina should be washed out on the second and each day thereafter, as long as the lochia continues; a copious douche of warm water alone is the desirable procedure, though any safe disinfectant may be added. But do not allow some ignorant person to inject either air or water into the uterus; see that the apparatus is of the proper kind, or use none at all.

I wish to repeat that a copious vaginal douche should be given on the second day, because we have been taught that about the third day "milk fever" will occur. I do not believe there is such a thing as milk fever if the child properly draws the breast in the meantime. About this time, the blood retained in the uterus and vagina is in a state of decay, and its absorption by abraded surfaces gives rise to a septic fever more or less intense, of longer or shorter duration. The vaginal irrigation preceding this period, then, is both a safe and wise measure.

Those cases of septicæmia supervening as late as the second week, I think arise from infection created by thrombi in process of absorption. The physician should know whether temperature is increased on the third or fourth day, and increased temperature is a pathognomonic symptom of septicæmia.

The purpera should observe strict cleanliness, be kept quiet, and free from worry and care, until involution is complete and all lacerations healed, and the obstetrician should determine these facts before dismissing the case. When he shall fulfill more thoroughly these duties of his laborious but honorable profession, there will be less complaint on the part of the gynæcologist of the results of insufficient and meddlesome midwifery.

CARLINVILLE, ILL'S.

ON THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.*

BY DRS. SENATOR, VON ZIEMSSEN, AND OTHERS.

Dr. H. Senator: Chronic diffuse nephritis, which is accompanied with albuminuria, presents variable forms dependent on the localization and limitation of the alterations in the divers renal elements. Between the two extreme types, characterized by the large white kidney on the one hand, and by the small granular kidney on the other, there exists a series of intermediary forms;—I include among the cases of chronic nephritis those which have lasted six months or more. I will consider successively the management suitable to the type of the large white kidney, then proceed to the type of the small granular kidney.

The treatment can have but little influence on the causes of the disease; the latter are insufficiently determined in many cases, and inaccessible to our therapeutic agents. What we ought to seek to prevent, is the transformation of an acute into a chronic nephritis, for this takes place oftener than one would believe. It is, then, indispensable to repeat the examination of the urine often, and also to regulate with care all the measures of hygiene, the precautions relative to clothing, to diet, etc., which may prevent or stay the effects of chilling, of malarial poisoning, of gout, of saturnism, of alcoholism, of diabetes, etc. Pregnancy merits a special surveillance by reason of the blood-stasis which it favors. Heredity deserves also to be taken into consideration. These predisposing causes often imply a change of climate—a sojourn in some warmer country.

The symptomatic therapeutics of paranchymatous nephritis may be said to have frequently varied in the past. As acute nephritis belongs more properly to this form, practitioners have endeavored in their treatment of Bright's disease to jugulate the affection by antiphlogistic means (the application of cold, blood letting, etc.), but this treatment is to-day generally abandoned, and with good reason, for it is almost always useless, and sometimes dangerous. The medicinal treatment, also, is often found impotent. Astringents, experimented with in cases of nephritis of parasitic origin, have failed; arsenic, boric acid, ferrugineus preparations, have given no results to all those who have taken pains not to allow themselves to be deceived by observation of the variations which the march of the disease habitually presents. The end to be pursued is, to alternate the consequences of the inflammatory state of the kidney, for we know to-day, by observations made at autopsies, that in nephritis (as in other affections that are curable, such as round ulcer) cicatrices are often produced which do not hinder the ulterior functionment of the organ.

The first indication, then, is to institute saving therapeutics, which consists in not overworking the parts susceptible of performing function. In this connection, it is opportune to remark that Semmola is almost alone in considering albuminuria as the cause of Bright's disease, while the majority of physicians see only in the passage of albumen through the kidney an effect of the disease. That which is certain, is, that in the diseased parts, the epithelia are tumefied, the canaliculi more or less obliterated, and a local irritation both mechanical and chemical is present; there is glomerular stasis and local œdema. To save the canaliculi work, it is necessary to favor the elimination of water through other emunctories (the skin, lungs and intestine) and to regulate, at the same time time, the diet, so as to diminish the albuminuria and thus lessen the epithelia of the canaliculi.

Several authorities, and among them Rosenstein, have studied with care the quantities of quaternary and ternary aliments (as well as the relative proportions of these substances) which can maintain in an adult the equilibrium of the exchanges; but I have been able to assure myself, as far as the patients are concerned, that there exist in this respect individual variations, and that it is indispensible in each case to fix the dietary by successive tentatives. As for the losses of albumen which find expression in the albuminuria, I believe them to be in relation with the effect of the disease, and not with the cause, and I cannot attribute to them a primordial importance.

We must, above all, nourish the patient, and in order to act on the blood in a favorable manner without imposing an increase of labor on the epithelia of the canaliculi, we may prescribe with advantage cod-liver oil (the effect of which rapidly manifests itself by an augmentation of the blood corpuscles), or other assimilable fats, and sometimes, even, iron, according to the indications which practice alone enables us to appreciate in each case.

Physicians are not agreed as to the utility of milk-diet, although they have considered it from different points of view; but experience has shown that if employed it is desirable to add other foods. As for the difficulty which certain patients experience in long tolerating a considerable quantity of milk, this can be overcome by skilfully modifying in divers ways the taste or mode of the preparation, and we may, moreover, add to the milk various starchy substances. In certain cases we may substitute koumys. I quite frequently prescribe milk of sweet almonds, which has an agreeable taste and is quite rich in albumen. As for

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meats, one should chose the white meats, which furnish the least extractive matters, and eschew pork. The treatment must be long continued, and it will not do too soon to relax a severe hygienic regimen.

The second indication consists in the lavage of the organs. Aqueous and other unstimulating drinks are useful for this purpose; but it is necessary to regulate the usage of alcohol in accordance with the habits of the patient,—to limit or suppress indulgence, as occasion may demand. Beer does not agree with these patients by reason of its richness in extractive matters.

As for muscular exercise, it should be extremely moderate, for it increases the decomposition of albuminoids; no fatigue should be permitted, and in grave cases, rest in bed is absolutely necessary.

The practitioner will also favor cutaneous transpiration by means of warm baths.

As for diuresis, this will be promoted by the administration of hydrocarbons which furnish a quantity of water relatively great, or by inunctions of lanolin, according to the rules laid down by Unna, or, lastly, by the usage of mineral water. Among the diuretic medicines, it is necessary to leave to one side such as may irritate the epithelium (cantharides for instance), and not to resort to cardiac diuretics such as digitalis, adonis, and strophanthus, except when there is real urgency. As for calomel, it is a feeble diuretic which seems to have given some good results, but is not to be depended upon.

As far as the *granular kidney* is concerned, it must be remembered that what dominates in this affection is the increase of the arterial tension, and the hypertrophy of the heart.

We cannot employ in reference to the morbid cardiac changes any means except such as have unfortunately only temporary effect. When we cannot compel the patients to keep their beds, it is necessary to watch over their hygiene in order to prevent the accidents of plethora, and to moderate their physical exercise as well as restrict the quantity of albuminoids in their dietary. Tobacco is usually dangerous by reason of its influence in promoting cardiac troubles and arterial atheroma. To the most rigorous measures of hygiene, it is necessary to add, in these forms of nephritis, the usage of iodide of of potassium.

Dr. H. von Ziemssen: From the point of view of the treatment of the nephritis, the distinction between the parenchymatous form and the interstitial form is indispensable.

The treatment of parenchymatous nephritis can only be symptomatic. Physicians have naturally a tendency, when called to the management of these cases, to try a great many remedies; and just here it seems to me important for one to be carefully on his guard against the dangers of polypharmacy in this affection. It is not best to prescribe medicines except when the indications for their use are really urgent, and care should be taken not to prolong their use.

Physicians, in order to combat the albuminuria, have experimented with a multitude of substances, among which I may mention sugar of lead, tannin, fuchsin, of which the inefficacy is to-day almost universally recognized. Iodide of potassium is said to have given favorable results in a few cases. But, in reality, to combat the albuminuria, it is to the usuage of milk, as well as to the observance of the most rigorous hygienic precautions, that we should have recourse.

Among the diaphoretic means by which we seek to provoke an increase of circulatory activity for the purpose of thus promoting the molecular exchanges and at the same time favoring elimination by the pores of the skin, the mildest and most useful to my thinking is the hot air or vapor bath; but it is important to avoid the chilliness which patients are apt to experience on going out from these bathing establishments, hence I prefer to counsel the usage of the baths at home, limiting them to 20 to 25 minutes' duration, followed by dry wrappings or wet packings, which must be applied according to a rigorous *technique*, if we would obtain really efficacious effects. For certain torpid natures, or in cases of old anasarca, pilocarpine has many times rendered good service.

The diuretics (digitalis, squill, alkaline carbonates, etc.) should be employed, but with prudence in cases where there is a notable lowering of the blood pressure. Theobromine in small doses may be longer prescribed without harm; it produces an efficacious diuresis without irritating the renal epithelium Calomel has seemed to me to be powerless in the œdema of Bright's disease. Gamboge, and cream of tartar, as drastic medicaments, find their indications.

As for punctures and scarifications, which are fallen into discredit by reason of the infections to which they open a door of entrance, I believe them useful to relieve the patient when the anasarca is very pronounced; hence I have recourse in such cases to punctures made by means of capillary canulæ, which I never leave in place for purposes of drainage more than twelve hours, and which I take care to cover with an antiseptic bandage; for this purpose I am in the habit of using salicylic batting.

As for *interstitial* nephritis, it presents a double therapeutic indication: the one pertaining to the general state (syphilis, gout, etc.); the other pertaining to the troubles of the circulatory apparatus. And in this connection I may say that I believe that phlebotomy may prove very useful in some cases by lowering the

blood-pressure; applications of ice to the precordial region, and rest in bed, are often also indicated. Lastly, I frequently prescribe for my patients a sojourn more or less prolonged in the South.

Dr. Mosher: There are no medicines with which to combat directly the albuminuria. The usage of milk, and rest in bed, are the hygienic means on which we must count the most.

Dr. Winternitz: Milk diet is sometimes badly supported; it is necessary to be careful in all cases to begin with rather small quantities. The utility of rest in bed is clearly indicated by the facts that in several cases of physiological albuminuria which I have observed, I have noted a less loss of albumen after the night than after the day. It is necessary to forbid all active muscular exercise; but purely passive exercise, such as massage, given to the patients while in bed, has rendered me real service in certain cases, by causing diuresis and diaphoresis, and by contributing to diminish the œdema. Only, it is necessary to proceed in such cases with a great deal of gentleness and prudence.

Dr. Ewald: I have often prescribed with success peptonized milk with cream. I showed six years ago the necessity of paying attention to the feeding of the patient, and that we never ought to have an exaggerated fear of the losses of albumen by the urinary passages.

In interstitial nephritis, iodide of potassium should be prescribed in doses amounting to 150 grains in the twenty-four hours. I have found benefit in several cases from the employment of the "sweating bed," and I have also administered jaborandi with success in cases where diaphoresis was difficult to obtain. I do not believe that scarifications are very efficacious, unless you make use of the capillary canulæ and leave them in for a period not exceeding 12 hours. As for calomel, I have employed it in conjunction with digitalis, according to the indications of Dr. Senator, and I think I have frequently derived benefit therefrom.

Dr. Klemperer: Bright's disease is curable, as Dr. Senator has said, in the sense that the epithelia of the canaliculi may recover their functions. It is important, then, to preserve for the organism its forces, till the re-establishment of function in the parts of the organ affected. Now the fear that by permitting an azotized diet we may produce an augmentation of the albuminuria, and injure the epithelia of the canaliculi abnormally traversed by the albumen and globulin of the blood, is not justified, for I have never seen the albumen of the daily food augment the albuminuria. One may, however, in a patient that is bed-ridden, maintain the equilibrium of the azotized exchanges on a return of a quart and a half of milk a day, with the aid of quantities of albuminoids much less than are required by the healthy and active adult.

The usage of carbo-hydrates (glucose and dextrin) and of fat (cream, etc.), may be useful; but milk always constitutes the basis of the alimentary treatment.

Dr. Pribram: I have made trials of fuchsin, according to the indications laid down by Esbach, but I have not obtained any very satisfactory results. As for tannin, it has seemed to me to be useful in cases of acute exacerbations occurring in the course of the chronic disease. On the other hand, the mineral water treatment of chronic interstitial nephritis seems to me to be really dangerous, by reason of the high arterial tension which exists in such cases, and the tendency to hæmorrhages.

A CLINICAL LECTURE—OÖPHORECTOMY FOR ADHESIONS AND A PEDUNCULATED FIBROID.*

BY WM. GOODELL, M.D.†

The patient before us is 38 years old, and has been married six years. During that period she has not conceived. For a long time she has been losing considerable blood at the menstrual period; this is one of her complaints. The history of the balance of her trouble is:

Last April, a year ago, she jumped over a fence, since which time has suffered a great deal of pain in the back, and cannot sleep without an anodyne. Upon examination, I found she has a multiple fibroid tumor of the womb, and a movable tumor in the abdominal cavity. My opinion is, that by her sudden jump, a tumor from higher up in the abdomen was crowded down into the pelvis, and is now pressing upon one or both ovaries; I can feel a hard movable tumor behind the uterus, which cannot be an ovary, because it lacks that peculiar sensitiveness that is characteristic of this organ.

The object of the operation I am about to perform will be to remove this fibroid tumor, and, perhaps, the ovaries also should they be considered diseased.

Permit me to say a few words about the preparation of a patient for an abdominal section.

In the first place, all the emunctories of the body should be active. If the patient has travelled a long distance, rest in bed, together with medicine of a tonic nature, are indicated; if able, moderate exercise will do no harm. In all these cases, a good, substantial, easily digested diet is required.

On the day previous to the operation, I order

* A clinical lecture delivered at the Pennsylvania University Hospital.

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given the patient, early in the morning, a full dose of *castor oil*, *compound liquorice powder*, or *Epsom salts*. During the afternoon of the same day, the abdomen is thoroughly scrubbed, previous to which the patient has taken a warm soap-bath. Clean clothes are put on, and she goes to bed. In the evening, should there be a tendency to sleeplessness, some hypnotic should be given, but not opium, for reasons which will be stated later. The morning of the operation, she is given an enema of soap and water to empty the lower bowel, followed by another bath, together with a vaginal douche of bichloride, 1 to 2000. A carbolized towel is then placed over the abdomen, covered with waxed paper, and retained by a binder.

The patient being etherized I will proceed with the operation. It will be observed that my instruments are immersed in boiling water, in which, I now place a 1 to 40 solution of carbolic acid; the hands of myself and assistants are chemically clean; and the abdomen of the patient is washed with a 1 to 1000 solution of sublimate.

I begin operations by an incision in the median line, cutting through skin and fat, with the intention of hitting the linea alba beneath—not always an easy matter, especially when the walls of the belly are not distended; an excellent way to find this, is by passing a grooved director across the rectus muscle, to the right and to the left, and the nearest point of arrest indicates the line. Carefully dissecting my way through this line, I come to the peritoneum, which lies behind the recti muscles, separated by a cellulo-adipose tissue.

Before opening the peritoneum, the hæmorrhage incurred is checked with catch forceps. I pick up with a pair of forceps the peritoneum, and gently cut through it, taking care not to wound any stray loop of intestine; now, by inserting two fingers in the opening made, I am enabled, by means of a pair of blunt pointed scissors, to enlarge the wound to the required extent. I am now in the abdominal cavity, where can be seen directly below the incision, a pedunculated fibroid tumor of the uterus; there is still another fibroid, lower down in Douglas's pouch and a smaller one behind the uterus; this latter is the hitherto unexplained moveable tumor felt through the vagina.

The left ovary is enlarged and bound down by numerous adhesions; there is also an example of an enlarged tube from salpingitis. The right ovary is enlarged and also presents many adhesions, but is by no means in as bad condition as its fellow organ. I presume that it is from the diseased and adherent condition of the ovaries, more than from anything else, that the pain complained of proceeds, therefore, my first duty is to remove them, when I may take out the fibroids, if necessary. In most cases from which I remove the ovaries for fibroid tumors, I generally leave the latter behind, because, so soon as the monthly afflux of blood to the uterus is stopped by the removal of its appendages, as a rule, they grow less or cease to give trouble.

Such a case as this is the strongest argument that can be brought against the use of electricity for the relief of uterine fibroids, since in a very large majority of cases, in addition to the tumor, there are present also, in the ovaries and tubes, lesions which only the knife can remove.

I now endeavor to remove the left ovary, which, owing to its adhesions, is hard to draw out; furthermore, I have to be careful in exerting too much force, as it is surrounded with meshes of enlarged blood-vessels, the separation of which is always attended with risk where there is a fibroid tumor. By careful dissection with fingers, I have separated the left ovary from its attachments and now bring it to view through the opening. I seize it by means of a pair of fenestrated polypus forceps, and transfix its stalk with a carbolated silk ligature, which I tie on either side, after which the ovary is removed and the stump returned to the abdominal cavity. The right ovary is treated in a like manner.

I now draw up to the abdominal incision one of these fibroids, that I may find out whether it is necessary to remove it. Upon consideration, I think it wise to let it alone, not only on account of the hæmorrhage that would follow an attempt to remove, but also, because I believe it will now atrophy and grow gradually smaller and smaller. Moreover, in addition to the general rule not to multiply operations unnecessarily, it would be useless to remove this smaller tumor, (which is about the size of a pigeon's egg) and leave behind the two larger ones, which are as large as hens' eggs—not to speak of the leaving behind of those other fibroids in the substance and cavity of the uterus itself. To remove all these tumors from the peritoneal cavity would cause a great deal of hæmorrhage, in which event, it might be necessary to use some of the dangerous hæmostatics, both now and later on; for we would have for a while afterwards from such a large raw surface, a great deal of subsequent venous oozing, which is always exceedingly irritating and a favorite location for septic germs.

Such an oozing of blood and serum, even though it should not cause any inflammation, would necessitate the use of a drainage tube, which, though it might be of value, would increase the danger of peritonitis.

There is still some bleeding going on within the abdominal cavity, which I will attempt to control by what I am pleased to call the "toilet of the peritoneum," for which I use a clean

Davidson's syringe and hot carbolized water. When the water comes back perfectly clear, I know that the peritoneal cavity is free from blood and clean. Thoroughly draining the abdomen of all fluid, I close the incision; before doing this I place a clean sponge in Douglas' pouch, another in the sulcus between the bladder and the womb, and a third (large, broad and flat) over the intestines under the wound, to catch the blood that may ooze from the cut surfaces.

Each needle is double threaded—that is to say, has a needle upon each end—which allows it to be passed from within outward. Each needle is inserted about a quarter of an inch away from the edge of the wound, and it is well to include in the sutures all the layers of the parietes—cutaneous, muscular, aponeurotic, and peritoneal. I would lay especial stress on including the muscular layer, because many ovariotomists think that by so doing, recti muscle abscesses are apt to follow in the suture tracks. But it seems to me that it is better to run the risk of an abscess than the more serious and grave one of ventral hernia.

Having inserted all the sutures, I remove the sponges previously placed in the abdomen, and am rejoiced to find that there is scarcely any blood on them; for this tells me that there is but little bleeding either from the sutures or from the abdominal cavity itself.

I now count my sponges and instruments, which number are found correct, and close the incision without having to resort to the use of a drainage tube.

My method for closing the wound is by grasping in one hand all the sutures on my side, while my assistant does the same upon the opposite side, when the edges of the wound are brought firmly together, and at the same time all the air is expelled from the abdominal cavity. Each suture is now tied with the surgeon's knot. The entire wound being closed, the ends of the sutures are gathered together and cut off several inches from the knots. The wound is dressed with the usual antiseptic precautions: First, it is thoroughly cleansed and dried; next iodoform is liberally sprinkled over the surface of the abdomen, and particularly into the umbilicus; then several layers of carbolated gauze are placed, over which adhesive strips of rubber plaster are fastened; last of all comes a wad of cotton-wool which has been thoroughly baked in order to destroy any germs, held in place by a flannel binder.

The after-treatment will consist in keeping the patient still, on her back, and without food for twenty-four hours; no opium either, unless the pain becomes too excruciating, which is very rarely the case—objections to opium are that it checks both secretion and excretion, and tends to nauseate. Hot cans will be applied to the body, care being taken that they do not come in too close contact with the skin, as the burns which they make are unusually severe. She will be allowed to see no one for several days but the physician and nurse, as absolute quietness must be observed.

Should obstinate vomiting occur, ice will be given or sinapisms applied to the epigastrium. If there is much flatulence, it will be relieved by inserting a flexible catheter high up into the rectum, or by enemata of turpentine, soap, and water.

As a rule, it is necessary to catheterize for a day or so after the operation, but it is to be avoided if possible, as the too frequent use of that instrument is likely to cause an irritable bladder that is slow to respond to treatment.

On the second day, we will give half an ounce of milk every two hours, increasing the quantity gradually as her condition demands.

If her temperature should prove high, 101° or over, ice will be applied to the head, the body sponged, a saline cathartic given, or some antifebric remedy administered.

On the fourth or fifth day the bowels will be freely opened with castor oil, or the compound liquorice powder purge. If these fail to act, they must be supplemented by an enema.

From a week to eight or nine days, the dressing now put on will be ready to be removed and the stitches taken out.

A few words more: In this woman, the tumor being directly in the way has made it harder for me to clean Douglas' pouch, and thus delayed the operation. Two weeks ago I did two oöphorectomies during a single hour, whereas to-day, I have barely finished this one in the same time. If it had not been for the presence of the fibroids I would have been strongly inclined to place in a drainage tube, on account of the multiple adhesions that the ovaries presented, although I know that many authorities are strenuous in their condemnation.

I have never yet lost a patient from hæmorrhage, but I have had some cases that for a while gave me a great deal of anxiety. On last Thanksgiving day, I staid for four hours by the bedside of a patient from whom I had removed both ovaries and tubes, in which case I had to use the drainage tube on account of the excessive hæmorrhage; but she got well.

Then again, four years ago, after I had removed an inter-ligamentous tumor, the patient bled until I had to re-open the abdomen and drench the bleeding surfaces with an antiseptic solution, and then apply freely to the site from which the tumor had been enucleated, Monsel's solution, which is always dangerous on account of the septic clots which it forms. Here, too, the woman recovered. A third case, some years ago, did not, however, turn out so well; I had ligated the pedicle of the ovary on one side, and was looking for the cor-

responding organ for the purpose of removing that, when my assistant, who was young and impetuous, caught hold of what he thought to be the other ovary, but which proved to be a small fibroid tumor, and pulling a little too roughly, the broad ligament was torn out. The hæmorrhage following was profuse. The various hæmostatics were used, but without success. The only way that I could control it was to hold my finger upon what seemed to be the intersection of several large veins that had been torn; but knowing that I could not hold my finger there long enough to do any permanent good, I passed a ligature underneath and around each vessel, when the hæmorrhage ceased. The woman did well until the twentieth day after the operation, when she had a movement from her bowels that happened just then to be a little constipated. I was sent for hurriedly. She had considerable difficulty in breathing and symptoms of heart failure. I knew what was the matter: By her exertion a blood clot had become dislodged and passed through the circulation to the heart causing its failure, from which she died in two days.

If I had torn the broad ligament to-day, it would have been necessary for me to have enlarged the abdominal incision as far up, perhaps, as the ensiform cartilage, in order to work thoroughly and intelligently; for there would have been bleeding, and it would have been necessary to tie the larger vessels, and to use the various hæmostatics for the subsequent venous oozing, and afterwards to resort to the drainage tube. All these would have greatly increased the danger, so that I am exceedingly pleased that this operation has been free from any such mishap.

CLINICAL NOTES.

PICHI IN URETHRAL TROUBLES.

Dr. J. A. Westlake, of Elmira, N. Y., writes: I consider pichi the best remedy extant for bladder and urethral troubles. After urethrotomy, my usual custom has been to tie in a silk catheter for 48 hours subsequent to operation. A few weeks ago I made an unusually severe operation for stricture, beginning at the meatus, cutting through all the pendulous portion, and then divulsed well into the membraneous portion of the urethra, and as a natural consequence, a large amount of fresh cut surface was left exposed to the action of the urine. But before operating I had ordered fluid extract pichi, in half-drachm doses every four hours, in syrup, which was continued after the operation. Now comes the point in the case:

My patient, during the night succeeding the operation, by some means withdrew the catheter, and feeling a strong inclination to urinate arose from his bed and passed a full stream ("No. 46 French"), and absolutely with no pain whatever; to use his own language "it ran like soothing oil." Of course I expected a chill such as nearly always follows the removal of an inlying catheter, but none followed; neither was there an appreciable rise of temperature. The man was discharged cured on the fifth day.

On the 5th inst. I was called to Mr. McC., a railway employé, who had been brought from Buffalo suffering with retention of urine, due to impassible stricture. The physician at Buffalo, having failed to relieve by catheter, administered morphine and sent him to me. I ordered a hot Sitz bath, with forty minims of compound solution of opium, to be followed by pichi every two hours.

I called on the morning of the 6th, and found my patient had passed about two quarts of urine, and easily. He informs me to-day that under the use of pichi he has been able to sleep well nearly every night, though heretofore his rest had been broken at half hour intervals.

I omitted to say that I find several false passages in this man's urethra, and after three hours attempt at catheterism the condition must of necessity have been much worse than at any previous time in his life; and notwithstanding this, the urethral irritation is entirely relieved. I shall cut the man soon, and shall *not* tie in an instrument, but trust to the soothing, emollient, and aseptic effect of pichi to ward off any subsequent trouble.

PHTHISIS PULMONALIS INFECTION.

It has been my province in the last few years, says Dr. C. L. Howell, of Flint, Mich., to have under observation and treatment a few cases of pulmonary consumption, and have noted very conclusively the infectious character of the disease.

In the spring of 1886, Mr. B. was taken with a cough, and at a time when he was in apparent health. Weight, two hundred pounds; age 28. The case developed as pulmonary consumption, and he died in June, 1889. This case I deem hereditary.

His wife, who had occupied the same bed and room, and had nursed and cared for him almost exclusively, was taken with a cough in the spring or latter part of the winter, 1889. In April of this year she also died, with unmistakable phthisis. From the history of the family, I feel absolutely sure the disease in her case was developed by infection through tubercle bacilli derived from her husband.

Mrs. M., a frail woman, age 35, was taken with a cough in the winter of 1887; died July, 1888; hereditary tendency. Her husband, who occupied the same bed and room, was a healthy robust gentlemen, and during the autumn of 1889 was seized with a cough, which soon developed unmistakable tuberculosis; and in

March last he too passed under the sod. His family history was unexceptionable, showing again conclusively the infectious nature of this most dread disease.

I could cite also more cases, yet they would only be a repetition of the above.

Now in view of the fact that this disease is infectious, what will be done to check its ravages? As typhoid fever, typho-malarial fever and yellow fever, are placed under the head of infectious diseases, should not pulmonary consumption, one of the greatest scourges of the human race, be treated in like manner?

HÆMOGLOBIN COMPOUND.

Dr. E. J. Pring, of Watrous, N. M., remarks: For several years I have been seeking a substitute for bullock's blood, but without success. The chief difficulty encountered being the uncertainty of perfect health in the animal from which the supply had to be drawn; for although to all appearance the beast was healthy, still, in my opinion, disease in several instances has thus been conveyed to the patient. Again, in country practice, the opportunity of continuing such treatment cannot be secured with any certainty or regularity, as the slaughter house is often too far away for the patient to obtain fresh blood.

As the next best substitute, I ordered the U. S. P. preparation of "*sanguis bovinus exsiccatus*," the use of which was attended with more or less success. But in my opinion the fresh blood looses an amount of its nutrition in being *dessicated*, even under the most careful manipulation.

Searching for something that would retain the active property of blood, my attention was called to hæmoglobin compound, and after several trials and careful study of its effects, I am convinced that it covers the want so long felt.

It has also another notable property, namely: To nervous invalids the very idea of fresh blood is often disgusting, especially at first; this prejudice, which is not a slight one, is entirely done away with.

Case—Mrs. McL., aged 29, mother of three healthy children, in whom, without any apparent cause, the heart's action was gradually growing weak. Stimulants of all descriptions seemed of no avail. I procured a small quantity of hæmoglobin compound, and gave in small doses, several times a day. A marked change soon took place, and in the course of a few days a decided improvement occurred. I am still continuing this treatment, although in larger doses, and at greater intervals.

I have several other cases that a similar treatment has greatly benefited, a *resumé* of which would at present occupy too much valuable time.

BUCKHORN BRAKE.

Dr. F. Farnsworth, of Sharpsburg, Iowa, writes: *Osmunda regalis*, or buckhorn brake, I have used for thirty years as an anti-abortive. It acts as a sedative to the uterine plexus, and is the equal of either *viburnum prunifolium* or *viburnum opulus*. I am sure no one needs anything better than either of these to allay after-pains, or the pain of dysmenorrhœa and kindred affections; but I do not regard it as possessing any especial styptic, astringent, or tonic properties.

CHECKEN.

I would like to add my mite of praise to this drug, which I recently employed in my own case during a severe attack of bronchitis. The only objection I have is its unpleasant taste. If it could be made more palatable and not injure its qualities, it would add to its popularity.

JAMBUL IN DIABETES.

Dr. U. V. Williams, of Frankfort, Ky., writes the AGE:

My attention was called to this agent by Dr. Keys, of New York, to whom I referred a patient who was passing 1,800 to 2,600 grains of sugar daily, with great loss of weight and strength. This amount was promptly reduced, and in eight weeks was entirely checked. Have continued once or twice daily since, and patient has regained much of weight and strength; passes no sugar; and now also has resumed a diet not strictly diabetic, but avoiding the most objectionable articles. I found the efficacy of the drug was increased by the conjoint administration of codea, ¼ to 1 grain doses, and would suggest the possible advisability of adding a portion of the latter drug in the preparation of jambul tablets.

Correspondence.

THE ANTISEPTIC TREATMENT OF WOUNDS.

THE APPLICATION OF ANTISEPSIS TO OBSTETRICS.

There is by no mean entire unanimity among surgeons respecting the application of all the details of Listerism to wounds and compound fractures. For instance, Leon Lefort of the Hotel Dieu, and Armand Després of the Charité Hospital, are still "old fashioned" in their treatment of wounds, contusions, and complicated fractures; and they certainly have many sympathizers among the surgeons of this country. Both claim successes in their private and hospital practice as great as the most ardent follower of Lister can boast. I call attention to this matter since Després, like many of his colleagues, ignores the minutiæ of Listerian dressings, as unnecessary. "Certainly," he

says, "the care which a surgeon brings to the dressing of a wound is a great element in success, but I do not believe in carrying these manœuvres to puerility; all, in fact, that Lister's method of dressing now lacks is, exorcisms." Després, as well as Lefort, use camphorated alcohol as a dressing, which is regarded as quite as good as any other antiseptic.

I call attention to this matter since Després has received no little censure from critics on account of the treatment of compound fractures counselled in his *Chirurgié Journalière* (see the Treatise on Fractures—Leisure Library Series,* 1890). Those critics who have supposed that Després was ignorant of the principles of modern antisepsis as applied to surgery, should read his long chapter on Dressings. In *Chirurgié Journalière*, on page 55, the Listerian dressings are minutely described, and further on, the reader is told how Lister would treat compound fractures.

Després also says that in some cases he would employ a modification of Lister's dressings, as in wounds with comminuted fractures near joints. In compound fractures where the wound is not extensive, where the soft parts can be readily brought together and suitable splints applied, he would advise the dressing by occlusion, using for this purpose strips of diachylon, the aim being to convert the compound into a simple fracture; he claims that even if suppuration occurs under the dressings there is no harm done; vent must be given to all pus, and free discharge favored by poultices.

It is, then, noteworthy that the widely known surgeon of Hôpital Charité is not a Lister man, at least, he does not believe in carrying antiseptics to the extremes taught by Lister. According to his experience, the same results are obtained by camphorated alcohol as by phenic acid. "All the antiseptic dressings," he says, "are moist dressings in which we employ alone or mixed with water, alcohol, spirits of camphor, phenic acid, etc., and which we call for this reason *antiseptic dressings*." His practice is thus summed up: Immediate reunion is excellent for wounds by a cutting instrument, but bad for contused wounds, and wounds with loss of substance: For wounds of the fingers, many wounds of the hand and of the foot, dressing by complete occlusion with strips of adhesive plaster: Continuous irrigation is indicated in wounds of the joints with fracture and contusion of the soft parts, when good immobilization has been obtained: Lastly, the "flat," open dressing with alcohol for wounds with loss of substance.

If there is not unanimity among surgeons as to the strict enforcement of the principles of Listerism, neither is there among obstetricians, and almost every medical meeting brings the so-called "old fogies" to the front; men who all their life-time have attended confinements, (if not with unwashed hands, at least) with hands that have not been disinfected, and who claim as good results as their neighbors that use antiseptic douches and religiously render their fingers, their finger nails, and their persons, aseptic before they venture on an examination.

In medio tutissimus ibis; some carry their faith in antiseptic midwifery to the extreme, and others are not half careful enough. It is better, perhaps, to err on the side of too much than on the side of too little; only, the practitioner in his zeal for antisepsis should always remember the danger of poisoning by his antiseptic solutions. In more than one instance, if we may believe reports, the patient has been killed by sublimate or phenic acid douches. One such fact has just come to my notice in a foreign journal; it was a patient of Dr. Créquy who died from the effects of too much vaginal and uterine douching with a sublimate solution (1–2000); the symptoms were notably those of corrosive sublimate poisoning. Dr. Créquy admits to the Societé de Therapeutique the fact of death from absorption of the antiseptic, and Dr. Constantin Paul, who also saw the patient, confirms the opinion of the attending physician.

E. P. Hurd.

Newburyport, Mass.

SHORT-WEIGHT QUININE CAPSULES.

My attention having been called to the very evident short weight of some of the quinine capsules in the market, I determined to investigate the matter. I had believed that the present low price of quinine had removed all incentive to the placing of short-weight capsules on the market, but my investigations have convinced me that such capsules are even now offered for sale. Whether their existence is due to intentional fraud or to gross carelessness, I cannot say, but I feel that the attention of the medical profession should be called to the existence of such capsules. These capsules were bought in the market in Detroit in original packages. Each package consists of a tin box, on the upper surface of which is a yellow label bearing the following: "Keep in a cool, dry place. Superior gelatin elastic capsules. Prepared from extra French gelatin. The drugs are the best that can be procured. Manufactured by the Merz Capsule Company, Detroit, Mich." On the end of the box is a small white label, bearing the following:

"106.—Quinine sulph..... 3 grains.
Capsicum..... 1–3 grains."

I obtained four of these boxes, which I will designate by the numbers 1, 2, 3, and 4. In

* Pub. by Geo. S. Davis, Detroit.

box No. 1 the capsules were not elastic, but were hard. This box contained originally 104 capsules. The short weight of these was easily determined. Twelve of the capsules, taken at random, weighed, gelatin and contents together, 1.858 grammes or 28.67 grains, or a little less than 2.4 grains each. There could be no doubt about short weight in these. The actual amount of quinine in each of the 12 capsules was determined as follows: The contents of each capsule were placed in a weighed one-ounce Erlenmeyer flask. The gelatin was washed free from quinine with absolute alcohol, the alcohol added to the quinine in the flask, the alcohol evaporated at a low temperature, and then the flask, with its contents, was dried at 105° C. to a constant weight. The weight of the anhydrous quinine sulphate multiplied by the factor 1.193 gives the weight of crystallized sulphate, allowing 8 molecules of water of crystallization, the highest amount of water allowed by the U. S. Pharmacopœia. The following table will show the result of these determinations:

No. of Capsule.	Weight of flask.	Weight of flask and anhydrous quinine sulphate.	Weight of anhydrous quinine sulphate.	Weight of crystallized quinine sulphate	Weight of crystallized quinine sulphate.
	Grammes.	Grammes.	Milligram.	Milligram.	Grains.
1	16.616	16.664	48	57.3	0.88
2	15.310	15.355	45	53.7	0 83
3	13.162	13 200	38	45.3	0.70
4	16.350	16.395	45	53.7	0.83
5	14.405	14.458	53	63.2	0.98
6	11.525	11.567	42	50.0	0.77
7	13 193	13.250	57	68.0	1.05
8	17.408	17.445	37	44.0	0 68
9	12.247	12.299	52	62.0	0.96
10	14.901	14.945	44	52.4	0.81
11	12.248	12.297	49	58.4	0.90
12	13.540	13.594	54	64.4	0.99

It will be seen from the above figures that the average amount of quinine is less than one-third of that which the capsules are advertised as containing. So much for the quinine; how about the capsicum? The contents of several capsules were dissolved in water with the aid of dilute sulphuric acid, and *not the smallest trace of capsicum could be found.*

In box No. 2 the amount of quinine was found to be larger than in the capsules from box No. 1, but again no capsicum could be detected. The method of determining the amount of quinine was the same as given above, and in order to save space, I will only report results:

Capsule	No. 1	contained	2.28	grains.
"	" 2	"	2.23	"
"	" 3	"	2.28	"
"	" 4	"	1.85	"
"	" 5	"	2.48	"
"	" 6	"	1.46	"
"	" 7	"	2.03	"
"	" 8	"	1.69	"
"	" 9	"	2.47	"
"	" 10	"	1.54	"
"	" 11	"	1.50	"
"	" 12	"	1.22	"

The capsules in boxes Nos. 3 and 4 contained capsicum, and the amount of quinine sulphate was determined as follows: Each capsule was placed in a clean one-ounce Erlenmeyer flask, 5 c. c. of distilled water, and 2 drops of dilute (1:5) sulphuric acid added. The flasks were then kept at 38° C. until the capsules had dissolved. The acid solution was then shaken with ether, and after separation the ether was removed and discarded. The contents of the flask were then rendered alkaline with a ten-percent. solution of sodium hydrate, and extracted twice with 25 c. c. of absolute ether. The ether was placed in weighed Elenmeyer flasks and kept at 30° C. until the ether had evaporated, then heated at 105° C. to a constant weight. The weight of the anhydrous quinine multiplied by the factor 1.3734 gives the weight of crystallized sulphate of quinine with 8 molecules of water of crystallization $(C_{20}H_{24}N_2O_2)_2$-H_2SO_4, $8H_2O$.

Twelve capsules taken at random from box No. 3 contained the following amounts of crystallized sulphate of quinine:

Capsule	No 1	contained	2.62	grains
"	" 2	"	2.54	"
"	" 3	"	3.01	"
"	" 4	"	2.96	"
"	" 5	"	2.43	"
"	" 6	"	2.22	"
"	" 7	"	1.93	"
"	" 8	"	2 78	"
"	" 9	"	2.39	"
"	" 10	"	1.99	"
"	" 11	"	1.95	"
"	" 12	"	2.30	"

Twelve capsules taken at random from box No. 4 contained the following amounts of crystallized sulphate of quinine:

Capsule	No. 1	contained	2.62	grains.
"	" 2	"	2.57	"
"	" 3	"	2.53	"
"	" 4	"	2.17	"
"	" 5	"	2.86	"
"	" 6	"	1.65	"
"	" 7	"	2.16	"
"	" 8	"	3.01	"
"	" 9	"	2.89	"
"	" 10	"	1.76	"
"	" 11	"	1.74	"
"	" 12	"	1 63	"

It will be seen that, out of 48 capsules assayed, only 2 contained the amount of quinine claimed on the label.—V. C. VAUGHAN, M. D., in *Phila. Med. News*, May 6th, 1890.

INTESTINAL HÆMORRHAGE IN TYPHOID.

On account of the importance of the subject, and the evil results that may follow the adoption of the teaching set forth, I am inclined to enter a protest against the treatment recommended by Dr. O. W. Braymer in his article on the above-named topic as published in the MEDICAL AGE of April 25th.

It seems to me that the large doses of ergot and stimulants given the patient might have been the exciting cause of the alarming hæmorrhage which followed their administration.

Permit me, as Dr. Braymer did, to hastily glance at a part of the morbid anatomy of typhoid fever.

First, there is hyperæmia, followed by hyperplasia, in certain intestinal glands. This excess of tissue is removed by resolution or the sloughing off of dead tissue, leaving an ulcer. Sometimes, during the sloughing process a blood-vessel is opened into, followed, of course, by hæmorrhage.

Now, can Doctor B. explain the philosophy of using ergot and stimulants to stop this bleeding? How is ergot to close the opening in the blood-vessel resulting from the slough?

Second, from a study of the physiological action of ergot, I find it heightens the blood pressure, and hence would have a tendency to wash out any clot which might have formed in the opening in the blood-vessel; and the effect, to a certain extent, would pertain to the use of alcoholic stimulants. Again, ergot causes contraction of non-striated muscular fibre, and it is thus easy to understand why it should be employed in post-partum hæmorrhage; but I fail to see why it should be used in hæmorrhage produced by an opening in a blood-vessel, wherever located.

The general orthodox treatment is opium, and perfect quiet to allow of the formation of a clot to check the bleeding. And it is possible that witch-hazel, geranium, or gallic acid, might have like influence by being carried by the circulation to the damaged spot; in any case, if they do no good, they are not liable to do harm, which I opine cannot be said for ergot.

Nitro-glycerin, I believe, is a very effective remedy in conditions of collapse and, after a patient has fallen into that condition from ergot, no doubt would be very satisfactory.

O. C. MASTIN, M. D.

SPRINGFIELD, Mo., May 8th, 1890.

[Dr. Mastin is in error in regard to the supposition that ergot is contradicted in internal hæmorrhages. It is now generally allowed to be by far the best astringent in these cases. If he will examine the web of an ergotized frog's foot, he will distinctly observe the gradual contraction of the vessels, even up to absolute obliteration, which will give a clue to its precise physiological action. It is in atonic hæmorrhages that it proves especially valuable, and its influence is admitted to be due to the contractile action it exercises on the muscular coat of the arteries. Dr. McGregor, of Glasgow, records several cases of *persistent hæmorrhage from the bowels* that yielded to ergot when all other remedies failed; and the results obtained are corroborated by scores of other able and authoritative observers. Indeed, the use of ergot is now deemed axiomal and imperative.—ED.]

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Editorial.

AN INVESTIGATION INTO THE ÆTIOLOGY OF PHTHISIS.

Under this head, Drs. Heneage Gibbs and E. L. Shurly, have published elaborate papers in the American Journal of the Medical Sciences (March and May, 1890); the investigation not being yet concluded. These researches were undertaken, the authors say, with the object of working out the morbid changes in the lungs which result in the formation of cavities, and with the endeavor to prove the causal relation of the bacillus tuberculosis thereto. With regard to the latter, these writers seem to have been very far from successful in obtaining satisfactory results, or evidence confirmatory of the position now current among pathologists that Koch's bacillus is the cause of pulmonary phthisis. They, in fact, strongly hint, though we have not yet their conclusions in very positive, intelligible language, that Koch's bacillus is rather a concomitant of the *caseous* stage of tuberculosis; they do not admit an ætiological relation, but suggest that the particular virus has not yet been isolated, and may be of a chemical nature. They impugn Koch's methods and those of his principal followers, and boldly challenge any of them to show that in their cultures and experimental inoculations they have ever used a product entirely free from tuberculous matter. In conveying the bacillus to susceptible individuals, it is almost certain, these gentlemen say, that the real virus has been transmitted along with the bacillus.

If this be the case, and if the bacillus now known as the bacillus tuberculosis be only an accompaniment (not a cause) of the disease, then we are as far as ever from knowing the real pathogeny of phthisis.

It would be passing strange if Robert Koch, who has the reputation of being the foremost mycologist of the day, has been in any way neglectful of the Baconian rule of exclusions and rejections. The question naturally arises: "Has the causal relationship of Koch's bacillus to tuberculosis been proved as clearly

as that of the sarcoptes to that familiar disease the itch?"

It is possible to isolate the sarcoptes from every extraneous substance, and by the fact of contact to produce psora in individuals before free from the disease; but can the tubercle bacillus be so completely isolated from the tubercle substance in which it is embedded as not to convey a chemical virus when inoculated? It has been supposed that by successive cultures this bacillus has been completely freed from all septic chemical elements, amorphous or figured, but this is a most difficult task, as all mycologists know. The majority of scientific men, the world over, however, have been disposed to believe this a task which Koch had accomplished with sufficient practical precision. It is true, nevertheless, that his experiments have not found many who have been competent to repeat or confirm them, and when we read Gibb's statement of the case, we cannot but wonder that the scientific world has been willing to pin its faith on so little testimony.

We would not be understood to gainsay or impeach Koch's labors, nor are we ready on any evidence which has yet been presented to abandon our belief in the bacillary origin of phthisis; nevertheless, we cannot but feel, with the authors of the articles above referred to, that there are gaps in our knowledge of the pathogeny of tubercle which cannot yet be filled, and that there are, clinically, varieties of phthisis which do not all fit well fit into one theory as to their causation.

Let experimental physiologists work away at the problem. If the world has for eight years been deceived as to the etiology of phthisis, let us know it.

> "Truth never can be confirmed enough
> Though doubts did ever sleep."

THE DISCUSSION ON BRIGHT'S DISEASE AT THE VIENNA CONGRESS OF MEDICINE.

In another part of this journal will be found the views of some of the most distinguished magnates of the profession, Von Zeimssen, Senator, etc., on the treatment of chronic Bright's disease. It will seem to many that these learned gentlemen have taken a great many words to tell the humble practitioner that he can do but very little.

Such, however, are the inherent difficulties of the case, that chronic nephritis is little amenable to medicinal treatment, and what is done for the relief of patients suffering from this disease must be mainly through hygienic measures. The patient must live with moderation; he must avoid fatigue, business cares, hard work, and worry; must eschew the "pleasures of the table," live largely on milk and vegetables, eat sparingly of meat, and drink no liquors. Warm baths to promote the functions of the skin, massage for passive exercise, mild laxatives to ensure regular action of the bowels, suitable clothing to protect from changes of the weather, and much rest in bed, are all essential, and the physician will have the patient under his surveillance as much as possible that he may meet indications as they arise. Uræmic symptoms may at any time appear; this is especially likely to be the case when much of the secreting substance is damaged or destroyed, and when from over-work or over-eating the metabolism of albuminoids is exaggerated beyond the ability of the kidneys to remove the effete nitrogenous products. Here, prompt thorough derivation of the bowels may be demanded; a compound jalap powder or an elaterium purge may spare the engorged kidneys and cause a flux by the intestines that will tide the patient over the present danger.

None of the speakers at this meeting appear to have alluded to uræmia and its treatment, but it must be remembered that at the time of this writing, but half of the discussion has reached us.

THE TERRORS OF THE "CODE."

In a recent number of the AGE, under the caption of "Physicians and Advertising," we had occasion to animadvert upon the strictures and slurs the public press is wont to cast upon the Code of Medical Ethics. The same occasion that gave rise to this editorial, seems also to have afforded material for a "hue and cry" in different quarters by lay journalists who, undoubtedly influenced by pecuniary motives, are a unit as regards this Code.

These gentlemen, it must be remembered, are accustomed to pronounce dictatorially upon any and all matters of which they have not the slightest knowledge. They, and the public generally, seem to have obtained the idea that this "obnoxious, insulting Code" is a form of bandit oath or agreement calculated to benefit the few at the expense of the many. They regard it as a fundamental law which governs a class of men who are organized against the interests and welfare of Society; a law that is the expressed intention of the manner in which a precise conspiracy is to be carried out.

So deeply is this idea rooted, that many charlatans and dishonest members of the medical fraternity, find it to their material pecuniary advantage to announce they are "Not bound by the Code of Medical Ethics."

The truth is, that the only clause in all the Code that can be deemed "hide bound"—to employ the words of one scribbler—is that which makes it obligatory upon the physician to refuse consultation with irregulars, which is based upon the assumption that even a quasi-recognition of falsehood is fraught with dishonor, and pernicious to the sacred cause of truth; but

this properly excludes no one who stands on the broad platform of *general and progressive medical science.* Advertising is likewise forbidden because any such method of securing patients cannot be adopted without untruthfulness and deceit, since the advertiser must, perforce, promise that of which there is no certainty he can perform, since life and health are factors that pertain only to the wisdom of the Supreme. To quote Dr. Willis P. King:

The Code is to the physician the highest law in the Universe, aside from the Bible, and if he rejects the latter, it is *the* highest law. What the "Discipline" is to the Methodist, the "Confession of Faith" to the Calvinist, and the "Articles of Faith" to the Baptist, the Code is to the medical man. It is the expressed law that is to govern him in his relations toward his brethren, his patients, and the public. It may be urged that gentlemen do not need the Code! Unfortunately for our profession, however, we were all men before we became physicians—men varied in instincts, education, intelligence, and desires. If we could create the *ideal physician* first, and then the *man* to correspond, there would be no need of a Code. All physicians are not what they should be; the opportunities afforded to take advantage of a fellow practitioner, and especially to deceive a credulous and confiding public, are so numerous that those not morally strong, but naturally selfish, weak and avaricious, take advantage of them. For these the Code is intended.

We cannot compel such to accept the Code, any more than we can compel them to become Christians, Masons, or Odd Fellows. But we can refuse a man Christian or Masonic fellowship if he is neither; and we can refuse the medical man fellowship who refuses to be one of us in spirit by subscribing to a fundamental law that holds all alike to strict accountability as to conduct as physicians and gentlemen!

Yet we are blamed for this every day. Intelligent people who would never think of recognizing a man as a Christian who does not subscribe to the fundamental law of Christians —the Bible—will abuse and deride us because we refuse to recognize and affiliate with men who oppose and condemn our fundamental law —the Code.

The real truth is that not one of the industrious deriders of the Code know anything of the tenets inculcated, and which they so wantonly and gratuitously condemn. We regret to say, also, there are some even in the medical profession equally ignorant. This Code is simply the outlines of rules of conduct essential to medical men in their relations with each other and with the public. It embodies nothing that is narrow or straight-laced, except in the same way as the Ten Commandments may be said to do. It aims to protect Society at large from dishonesty and chicanery. In fact, it inculcates nothing that may not be summed up by the "Golden Rule" or the "Eleventh Commandment," since its whole foundation is Truth and Honesty!

This is why the quack and the charlatan so eagerly, and with every expression of animosity opposes the Code; he knows the professions he makes are incompatible with either truth or honor, and in order to hide his vampire aims and to maintain a quasi-respectability in the eyes of the public, he is obliged to butress up his deceit and and false promises by falsehoods; and in furtherance of this it is incumbent upon him also to attempt to drag the honest members of the profession to his own level, and thus distract attention from his short-comings.

The charlatan and advertising quack is less respectable than the pick-pocket, or the gambler who employs marked cards and loaded dice to fleece his victims; these latter are content with jeopardizing the pockets of their followers, while the charlatan trifles in addition with human life.

Summed up, then, a medical Code is intended simply to make it obligatory upon its followers to be *gentlemen* in the fullest and broadest acceptation of the term, and to affiliate only with those who as practitioners strive to attain this end. Such has no reference to pathies or isms, but is broad enough for all true followers of medicine as a science, for our Homœopathic and Eclectic brethren possess Codes that aim at the same precise end. Hence, when a professed medical man is heard to rail at and deride "the Code," it is *prima facie* evidence that he is either ignorant of its tenets, or that he is devoid of truth and honor, and consequently has an eye to ungentlemanly and dishonest practices. "Good wine needs no bush," and a true and able physician requires no advertising, which necessarily is a violation of the law, "Thou shalt not bear false witness."

THE CONVENTION FOR THE REVISION OF THE U. S. PHARMACOPŒIA.

The Seventh Decennial Convention for the Revision of the Pharmacopœia is a thing of the past. Pursuant to plan, it met in Washington on May 7th, and concluded its labors on the 10th, leaving the final work in the hands of a Committee of twenty-four representative gentlemen, viz:

Charles Rice, Ph. D., New York; Prof. James P. Remington, Philadelphia; Prof. F. B. Power, Wisconsin; Prof. P. W. Bedford, New York; Dr. W. M. Mew, U. S. A.; Dr. John Godfrey, U. S. M. H. S.; Dr. J. M. Flint, U. S. N.; Prof. J. M. Maisch, Philadelphia; Dr. Roberts Bartholow, Philadelphia; Dr. C. O. Curtman, St. Louis; Dr. F. A. Castle, New York; Dr. N. S. Davis, Jr., Chicago; Prof. C. L. Deihl, Louisville, Ky.; Dr. R. G. Eccles, Brooklyn, N. Y.; C. Mohr, Ph. D., Mobile, Ala.; Prof. G. F. H. Markoe, Boston; Prof. Oscar Oldberg, Chicago; Prof. L. E. Sayre, Kansas; Prof. Otto A. Wall, St. Louis; Dr. Thomas F. Wood, Wilmington,

N. C.; Dr. H. H. Rusby, New York; Mr. A. B. Taylor, Philadelphia; Dr. R. T. Edes, Washington, D. C.; Prof. C. S. Hallberg, Chicago.

Dr. Charles Rice was rechosen Chairman; Prof. J. P. Remington, Dr. R. T. Edes and Dr. C. O. Curtman, Vice-Chairmen; Surgeon J. M. Flint, U. S. Navy, Treasurer; and Dr. F. A. Castle, Secretary.

During the second day of the Convention the Committee presented a draft of the general principles which they recommended as a guide in the final work of revision, which was adopted as follows:

The Committee, etc., is directed to follow the general principles adopted by the Convention in 1880, so far as the same are not modified or superseded by special directions in the succeeding paragraphs.

It is recommended that assay processes be appended to the descriptions of the more energetic or otherwise important drugs containing active principles, provided the therapeutic value of the drug depends upon the amount of these principles, and provided, also, that these principles can be assayed and identified with reasonable accuracy and without requiring complicated processes. The Committee may attach a note stating the usual percentage of these active principles in good commercial samples of the drug, and, if it be found feasible, it may attach a requirement that the drug shall not be used unless it conforms to the stated limits.

The Committee may attach assay processes to such Galenical preparations as fluid extracts, tinctures, etc., but it shall omit requirements of a definite strength or percentage of active principles except in the case of drugs for which an upper or lower limit, or both, of active principles is prescribed.

In the case of opium and cinchona, the Committee shall adopt such processes of assay as will be found to yield the largest proportion of the desired active principles with greatest uniformity and with least manipulative difficulty, the object of these processes being to ascertain how much of the respective principles can practically be extracted.

In the case of chemicals, the degree of purity, or the allowable percentage of impurity, shall be prescribed as closely as practicable. The standard of purity shall be set as high as practicable for legal enforcement, but not beyond a point reasonably attainable by the manufacturer without subjecting any particular product to unnecessary cost through the enforced removal of some harmless and insignificant accidental impurity.

Chemical formulas may be given only in the new notation.

No substance which cannot be produced otherwise than under patented processes, or which is protected by proprietary rights, shall be introduced into the Pharmacopœia.

In the choice of titles of official articles it is recommended that convenience, established custom, and considerations of safety against mistakes through similarity of or changes in names, should outweigh purely theoretical considerations or scientific preciseness.

It is recommended that the Committee define the exact degree of temperature of the standard by which other specific gravities are to be determined and stated by the Committee, so far as it may be practical, on the basis of the established temperature and other conditions of the standard.

It is recommended that general formulæ be introduced for fluid extracts, and that the general formula to be followed in any particular case be merely indicated by reference.

The tables and list of reagents authorized or prescribed for the Pharmacopœia of 1880 shall also be inserted in that of 1890, with such corrections or substitutions as may be required to bring them up to date.

It is recommended that the Committee of Revision be instructed to direct solids to be weighed and liquids to be measured, except in such cases as they deem it advisable to use weights alone, and that the metric system be used for this purpose.

It is recommended that the Committee of Revision be authorized to print and publish, on its own account, the seventh decennial revision of the Pharmacopœia of the United States of America.

The Committee shall announce in a conspicuous place, in the printed work, a definite date, reasonably distant from the actual date of publication, when the new Pharmacopœia is to go into effect, and to supersede the preceding one.

It is recommended that the Convention intruct the Committee of Revision, etc., to pay the experts and others employed in the preparation and publication of the seventh decennial revision of the Pharmacopœia.

It was shown that out of the publication of the previous Convention the publishing house had cleared a net profit of $65,000, and it was thought that this fund could become as acceptable in the Association's treasury as in the publisher's pocket. This met general approbation, and accordingly the Revision Committee was directed to take charge of the publication, and the paragraphs referred to were adopted.

A resolution was offered in reference to the organization of the Committee for 1900, and a committee of seven was created for the purpose of considering the ways and means therefor, Doctor F. A. Castle, Professor J. P. Remington, Mr. H. M. Whelpley, Mr. C. P. Pengra, Doctor S. C. Busey, Mr. A. E. Ebert, and Mr. W. M. Searley, being selected.

Ths section referring to assay excited considerable discussion. Dr. Eccles, of Brooklyn, was the chief objector thereto, on the ground that to adopt a maximum dose for preparations was to give the large manufacturers a good opportunity to cheat the druggist; he did not believe that it was possible to discuss this question before such a large body so as to go into extended details. Prof. C. S. Hallberg also moved to strike out the section relating to assay processes for Galenical preparations, and to make an amendment to that relative to the assays of opium and cinchona, to the effect that a minimum and a maximum standard be fixed for the tinctures of these two drugs.

Hereupon Dr. J. R. Atkinson called attention to the fact that ample provision was made for these cases by the former section, in which he was corroborated by Prof. J. P. Remington; the latter believed the clause embodying the word *may* fully protected both the medical and the pharmaceutical profession.—The Committee were not directed to do anything positively, and they were only permitted to apply the principle to preparations of those drugs which themselves were to be standardized; furthermore, it was permitted only in the case of such drugs as contained active principles readily recognizable and determinable. Dr. A. Koenig, of Pittsburg, added he considered the Pharmacopœia was for the benefit of people who need medical assistance, and he felt such should no longer be subjected to the dangers attendant upon the lack of uniformity in the strength of toxic drugs; physicians were not misled in regard to this question, as their opinions were based upon too many sad experiences, and to deny that standardization was necessary in the interest of the physician's patients was simply begging the question.

Dr. H. H. Rusby, of New York, next suggested the arguments of the opponents of standardization might be properly paraphrased as follows:

Resolved: That inasmuch as it is not practicable to secure such absolute uniformity as we should like, we shall therefore endeavor to have as great a want of uniformity as we can secure.

In his opinion the question was not whether or not absolute uniformity was to be attained; but whether we had or could discover convenient processes for increasing the medicinal value of the preparations that we must use. If this were the case, he felt that we should not longer discuss quibbles, but take the required step and progress as far as was clearly shown to be practicable at that time, and trust to the future to enable us to go farther.

The section referring to exclusion of proprietary and patent medicines attracted brief attention also. Dr. Eccles stated that he was not in favor of excluding such, as he believed physicians must have them, and that it was better that they should be in the Pharmacopœia so that they should be subjected to some control; he stated further that if they were not introduced they would simply remain as they were, and at the expiration of the period of their patents would still be protected perpetually by their trademarks; but that if they were to be introduced under some other name, at the expiration of the term of patent they would be free to the public under the new name by which they might now be introduced into the Pharmacopœia.

In this Dr. Eccles was proven in error in part, as Drs. Rusby and F. E. Stewart showed that recent legal decisions of the highest authority, and the House Committee on Patents, had agreed, without a dissenting opinion, that the trademark law gave no legal protection to the use of descriptive names of anything; that if an article were protected by patent, such protection was perfectly legal and would hold until the expiration of such patent; but that under no circumstances, before or after such expiration, could any protective rights inhere in the name itself.

The section on weights and measures was set apart as a special order of business, that Prof. Mendenhall of the U. S. Coast Survey might present an address upon this subject. This gentleman showed that the United States had been without any definite legal standards, and that many States had passed enactments providing penalties for violation of legal weights and measures, which necessarily were anachronisms, such having no existence. He then explained the standard recently adopted by Congress, whereby the *metre* is a standard of measure, and the *kilogramme* the standard of weight.

One of the most interesting incidents of the Convention occurred when Prof. J. P. Remington rose, and alluding in the most graceful and touching manner to the faithfulness and industry of the Chairman of the past Committee of Revision, excited a perfect storm of applause on the presentation of a motion that the sum of $1,000, be tendered Dr. Charles Rice for the eminent and faithful services which he had rendered to the Association in this capacity. Dr. Rice declined earnestly to be the recipient of this donation, as he was modest enough to call it, at the same time he expressed the highest appreciation of the honor conferred upon him. The motion was however, carried amidst a round of applause. As soon as possible Dr. Rice obtained the floor and stated nothing could prevent him from returning the check with his endorsement to the Committee.

It will be observed that the question of standardization, which has agitated medical and pharmaceutical circles for some time, is left altogether in the hands of the Committee of Revision. As this is made up of representative, progressive men of National reputation, not likely to be influenced by any motives but the best interests of medicine and pharmacy, we assume the question will be calmly and impartially weighed, both *pro* and *con*, and adjudicated solely upon its merits.

Inasmuch, moreover, as the present Pharmacopœia demands assays for cinchona and opium preparations, and there are equally good and valid reasons why certain other drugs should be placed in the same category, it is safe to predict that several at least of the more important will be standardized; also that this will especially be applied to the narcotic and

toxic drugs so far as they are amenable to the present resources of chemistry, and from henceforth be extended in ratio and degree with the progress of chemical knowledge. This reform is one that commends itself forcibly to the physician and pharmacist alike, and especially to the former, who has long been forced to wrestle in his therapeusis with the uncertainties and variations of the drugs placed at his command.

Book Notices.

STORIES OF A COUNTRY DOCTOR. By Willis P. King, M. D. Illustrated. Cloth, large 12 mo., pp. 397. Price, $2.50. Published by the Hudson-Kimberly Pub. Co., Kansas City, Mo.

This volume, dedicated to "The progressive, good, conscientious and true men of the medical profession of the United States, and to jolly good fellows everywhere," was written, as the author declares, to give the world the benefit of what he has learned of humanity during a quarter of a century of practice. He further adds:

I desired to give praise due the honest, conscientious and hard working men in my profession. * * * I also wished to hold up before the calcium light of public scrutiny, and thus properly excoriate, the quacks and scoundrels who infest our communities and by their falsehoods and frauds bring disgrace on a noble calling; and I desired to properly characterize and satirize those who hinder our work by their ignorant superstitions, their selfishness and vanity.

I also wished to go down in history with that noble army of the world's benefactors—the book writers—as a man who had written a book. I hope that the book may be the means of affording amusement and giving pleasure to both my over-worked professional brethren and the community at large.

And last and best of all, dear reader, I desired to make something out of the enterprise. If I do, there will be rejoicing at our house when the receipts come in. There will be a feast in which the timbrel and the hewgag will be sounded, and I promise you that the widow and the orphan shall not be forgotten.

From all of which it may be imagined the work abounds in humor, and that the humbugs encountered by medical men, both among themselves and the public at large, are vigorously handled. Even the title page humorously reflects upon those medical men who, fearing lest they may not be measured by their own standard of egoism, or estimated at more than their real worth, tack after their names "Member" of this and that, and "ex-Member" of the other, etc., for Dr King satirically ends the usual array with: "Surgeon * * to the Jail and Poor House, and ex-Physician to the Branch-Water Man and his Folks."

Some years since, as President of the Missouri State Medical Society, Dr. King delivered an address illustrative of the trials, humors, and tribulations experienced by himself in beginning practice on what was then the outskirts of civilization. This address is historical, and has passed into literature as one of the best examples of native American humor. The book before us embodies much of the same material, but more generally elaborated, that entered into this address.

Though in many respects crude, the work is interesting throughout, and abounds in anecdotes and fun, and even suggestions that will furnish food for sober reflection. Perhaps it would have been better, so far as the general public is concerned, to have left out entirely all technical phrases; and we feel assured Dr. King would have been more successful in many instances if he had given free scope to his natural humorous bent instead of attempting to tone down and re-dress. In other words, we would prefer he had written as he talks, and thus avoided a certain stiffness that here and there appears. Nevertheless, the book is worthy of perusal, and entitled to a place on the library shelf beside Hooper's "Louisana Swamp Doctor."

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Volume 6, No. 2, May, 1890. Paper, 8 vo.; pp. 347. Price, $1.00. Published by Wm. Wood & Co., New York.

Four papers are embodied, viz.: "Insanity at the Puerperal, Climacteric and Lacteal Periods," by Wm. Bevan Lewis, L. R. C. P.; "Treatment of Diseases of Women by Massage," by Dr. Robert Ziegenspeck of Munich; "The Treatment of Internal Derangement of the Knee-Joint by Operation," by Herbert William Allingham, F. R. C. S.; "The Idiopathic Enlargements of the Heart," by Dr. Oscar Fraentzel, of Berlin.

In our review of No. 1 of this volume (April, 1890), we inadvertently employed the misnomer, "Wood's Medical Library." The issue as noted embodied a valuable monograph by Thomas S. Ellis, M.R.C.S., on the "Human Foot," an essay by Sir Henry Thompson, F. R. C. S., on "Modern Cremation," and a paper by James Ross, M.D., on "Aphasia."

A NATURAL METHOD OF PHYSICAL TRAINING. By Edwin Checkley. Cloth; 12mo; 122 pages. Published by Wm. C. Bryant & Co., Brooklyn, N. Y.

Evidently Mr. Checkley is not a physiologist, or any too familiar with physiological phenomena as applied to the development and physical culture of the human race. Yet he has formulated views that in the main are sound, being based upon practical, hard, common sense. No one will lose anything by perusing this little volume, and may gain considerable desirable information. Briefly stated, the aim of Mr. Checkly is to inculcate uniform development throughout the entire physical economy,

and in such a way as to preserve a natural harmonious relationship between all organs. He truly says: "It is in the conservation of energy, and not in the prodigal dissipation of energy, that the greatest strength and endurance of the body will always lie." We especially commend the chapters devoted to physical training of women and children.

Electricity in the Diseases of Women. By G. Betton Massey, M. D. Second edition. Cloth, 12 mo., pp. 240. Price $1.50. Published by F. A. Davis, Philadelphia.

The former edition of this work was reviewed in these columns. That a second edition was demanded in so brief a period as fourteen months, is evidence it met popular favor. The author has revised the text in no small degree, while chapters xi, xii, xiv, and xvi, have been entirely rewritten; also new ones added on Subinvolution and Chronic Inflammatory Diseases of the Appendages. An important addition is an Appendix, that gives a graphic description of the laws of Ohm, and of current diffusion.

Monographs by G. Frank Lydston, M. D. Chicago, Ill.

"A Lecture on Sexual Perversion, Satyriasis, and Nymphomania," 12mo.; pp. 22. Reprint from Philadelphia Medical and Surgical Reporter.

"The Local Treatment of Syphilitic Phenomena." 12mo.; pp. 7. Reprint from Cincinnati Lancet-Clinic.

Monographs by Dr. Just Lucas Championniere.

"Trépanation pour Hémorrhagie Cérebrale." 8vo.; pp. 8. A paper read before the Academy of Medicine of France, Aug. 20th, 1889.

"Le Massage et la Mobilisation dans le Traitment des Fractures." 8vo.; pp. 47. Reprint from the Journal de Médicine et de Chirurgie Pratiques, December, 1889.

Notes and News.

The Ovarian Juice in Therapeutics.—In the Archives de Physiologie Normale et Pathologique for April, 1890, Professor Brown-Séquard continues his record of experiences with testicular juice, and adds some novel reports upon the use of injections of watery extracts of the ovaries in women. He quotes the experiments of Professor Villeneuve, of Marseilles, upon a hysterical woman, who, after a double salpingotomy continued to have crises. She was treated with injections of the ovarian juice, and cured!

Dr. Brown Séquard adds that an American lady has been carrying on experiments with the ovarian injections with great perseverance and success. She used the ovaries of rabbits, and prepared and used the extract in the same way as was done with testicles. Experiments were made upon more than a dozen female patients suffering from debility, insomnia, and uterine troubles. She observed return of strength, relief of insomnia, cessation of hysterical attacks, and in one old lady who had lost her singing voice, a complete return of vocal power!

It is to be regretted that the important juvenescent properties of the fresh ovaries were not known when the removal of these organs was so much in vogue in this and other cities. To have removed the ovaries, chopped them up, extracted their juice, and inoculated the patient with the dynamogenic product of her own organism would have been a superb climax of surgical and medical art.—*Medical Record*, May 10th, 1890.

The Circumference of the Neck as a Proof of Virginity.—It is well known that many persons are of opinion that the neck of a woman enlarges immediately after her earlier relations with man. Malgaigne writes on this subject: "Others go farther, and pretend to be able to test virginity in the following manner: The circumference of the neck is taken at the middle with a piece of thread; the length of the thread is then doubled and the two ends are held between the front teeth, and the loop thus formed is passed over the top of the head. If the loop passes freely over the vertex it is a bad sign; if, on the contrary, it is too short, the presumption is in favor of virginity." In the poems of Catullus, of Verona, the following passage occurs:

> "Non illam nutrix, oriente luce revisens,
> Hesterno collum poterit circumdare filo,
> Currite, ducentes septemina, currite, fusi."

This is an instance of the fidelity with which some very old medical ideas have been transmitted to our own times.—*Provincial Medical Journal*, May, 1890.

The Obstetric Binder.—There are some questions which, like certain ill-conditioned ghosts, refuse to be "laid." Just when one is congratulating self and friends on the wretched thing having sunk to rest it starts up afresh, and one is exasperated at seeing the same old arguments and reasons trotted out afresh. At one time it is an interminable controversy on some obscure cardiac murmurs, and now it is that everlasting obstetric binder, which defrays the small talk of a certain section of the profession. Let us lay it down authoritatively that the obstetric binder is useless, in so far as the restoration of the figure is concerned, but that it is "comforting" to the patient, and if not too tightly applied, reasonably harmless, hence it is usually best to apply it. If we do not put a stop to this sort of thing, we shall have all the old man-midwives of the three kingdoms

sending us their prose on the topic which was probably voted a bore as far back as the birth of Moses.—"*Hosp. Gazette*," May 3d, 1890.

Brown-Sequard's Testicular Liquid.—A reaction of medical opinion has taken place with reference to Professor Brown-Sequard's testicular liquid, and many physicians and pharmacists are already predicting that the day is not far distant when testicular preparations will be as regularly prescribed as pepsin, pancreatin, or diastase now are. Much attention has, in fact, been given to the recent experiments with the liquid by Dr. Mairet, of Montpellier. This scientist tested its action upon insane persons who had become speechless and were in a condition of stupor. According to the report, these patients quickly became lively and resumed conversation after half-a-dozen injections. It is not stated that they were able to talk more rationally than before. By the way, a queer fact about the Brown-Sequard injections is, that the doctors who make them have had an excessive number of applications for treatment from women—nobody knows why. —Paris Correspondent of *Pharm. Record.*

Medical Education in the United States.—If America has sometimes seemed to be open to the charge of neglecting the more scientific side of medicine and medical education, that reproach is in a fair way to be removed. Hardly a month passes but we hear of fresh foundations of laboratories and chairs. At the present time a large new laboratory is in course of erection as an extension of the accommodation already provided in the Harvard Medical School, Boston, U. S. A.; and the University of Pennsylvania, having obtained an endowment fund of $200,000 for the department of hygiene, is about to erect a hygienic laboratory at a cost of $50,000.—*British Medical Journal.*

A New Inhaler for the Administration of Ether or Chloroform.—With this inhaler, the anæsthetic to be administered is dropped into a funnel-shaped opening at the top and falls into absorbent cotton contained in a chamber beneath, where it is confined by a perforated hinged diaphragm. The advantages obtained are cleanliness, convenience and cheapness.

The inhaler is manufactured by E. A. Yarnall, of Philadelphia.—Frank Woodbury, M.D., in *Journ. of Am. Med. Association.*

Census of Beneficiary Societies.—Any one interested in the sick-benefit, funeral-aid, and death-beneficiary associations of the United States, can help make the statistics of these organizations for the forthcoming Census more complete, and disseminate the knowledge of the good work they are doing, by sending the names of such societies, and the addresses of their principal officers, to Mr. Charles A. Jenney, Special Agent of the Eleventh Census, 58 William Street, New York, City.

Therapeutic Brevities.

Hardy's Method of Treating Itch as carried out at the Hôpital St. Louis, at Paris, France, is as follows: The patient is first of all subjected to friction with black soap and water for about twenty minutes. Then he is placed in a warm bath for an hour, during which he continues to rub and soap himself. On coming out of the bath he is rubbed over the whole surface of the body for twenty minutes, with a modified formula of Helmerich's ointment. This treatment lasts for an hour and forty minutes. Rubbing with black soap and the bath aim at cleansing the skin, softening the epidermis, and opening the fissures, and thus preparing for the action of the ointment which is intended to destroy the acari. After this treatment the patients dress themselves without drying the skin, and are advised not to remove the ointment for at least four or five hours. This prolonged contact is intended to insure the destruction of the acari, and especially to reach those which may have wandered on to the clothing; the individual who is thus covered with sulphuro-alkaline ointment is a veritable fumigating machine, exhaling sulphurous vapors. Nevertheless to insure cure and to prevent the itch from being reproduced by the acari remaining in the clothing, it is better to pass through the vapor of sulphur the clothing which has been worn from the beginning of the disease, and completely to change the linen and sheets, and to burn any gloves which may have been worn.

Helmerich's ointment is composed of sulphur, lard, and carbonate of potassium. The following is Hardy's formula:

Lard, 100 grammes,
Sulphur, 10 grammes,
Carbonate of potash, 8 grammes.

Fournier recommends for city practice the following freely applied:

Glycerin, 200 grammes,
Gum tragacanth, 1 gramme,
Flowers of sulphur, 100 grammes,
Carbonate of potassium 35 grammes,
Oil of lavender, Oil of peppermint, Oil of cloves, Oil of cinnamon, } ää 1.50 grammes.

The naphthol ointment is highly spoken of by Kaposi, and is prepared as follows:

Beta-naphthol, 15 grammes,
Black soap, 50 grammes,
Prepared chalk, 10 grammes,
Lard, 100 grammes.
M.

The rapid treatment, according to Fournier, is bad for children, as it causes a troublesome eczematous eruption. Better use milder ointments, as the simple unguentum sulphuris, and take a week or more for the cure. First allay the cutaneous inflammation by warm baths, starch dressings, and linimentum calcis; then rub in soap and water to expose the furrows of the itch-mite, then rub on night and morning the following ointment: Styrax, 2 parts; Olive oil, 1 part.

—E. P. Hurd.

The Hæmostatic Action of Penghawar Djambi.—Dr. Noltenius has recently been making some experiments on the hæmostatic action of *penghawar djambi*—the golden, silky, lustrous hairs from the frond bases of several tree ferns of Java and Sumatra. Introduced into Europe in 1843, (and into the Dutch Pharmacopœia), it enjoyed an ephemeral reputation as a hæmostatic, but since then has gradually fallen into oblivion; but even to-day it is still used by many physiologists, particularly for arresting the flow of blood in vivisection. As the fibres of the *penghawar djambi* are too short to make a suitable tampon, they were mixed with an equal part of cotton wool. The author found (*Therap. Monatsh.*) that in contrast to the statements of other authorities, *penghawar djambi* does not greedily absorb liquids like a sponge, but floats on water for days unsaturated. Further, he never saw any suppuration follow its use, as stated by Mosettig-Moorhof in his hand-book of surgery. Experimentally, it was demonstrated that the drug has no appreciable power of accelerating coagulation of blood, as supposed by some. The *penghawar* tampon was observed to possess a much greater elasticity than that of simple cotton wool, so that it exercised a constant pressure upon the walls of any cavity into which it was introduced. This seems to be an important factor in explaining the undoubted hæmostatic action of *penghawar* in wound cavities; aud this again is enhanced by the resistance of the substance to inhibition of liquids which tend to make it soft and inelastic. It seems, further, that if not antiseptic, *penghawar djambi* is at least aseptic.—*Provincial Med. Jour.*, May, 1890.

On the Administration of Lithium in Gout.—Eloy remarks that the iodate and benzoate are to be preferred to the carbonate. It is thus prescribed:

℞ Lithii iod., grammes 0.25.
Extr. et pulv. gent., ää q. s. ft. pill.
Three to four pills daily.

Or:

℞ Lith. iod., grammes 6.00.
Syr. cort. aurant, grammes 200.00.
Two to three teaspoonsful daily.

The benzoate of lithium is given in the form of powders of 0.20 gramme each, and 4 to 8 powders are taken daily. In cases of gout with a tendency to chronic nephritis, Huchard causes the lithium to be taken with benzoate of soda for some time:

℞ Extract stigm. maidis, grammes 6.00.
Sodii benz., grammes 3.00.
Lith. carbon., grammes 3.00.
Ol. anis., gtt. iij.
M. Ft. pill No. 60. Sig.—Daily, 2 pills before each meal, during 20 days of each month.

This treatment must be continued for three years. It goes without saying that these remedies may advantageously be combined with the use of alkaline mineral waters.—(*Allgem. Med. Central-Zeitung*, No. 26, 1880.

Preparations of Hydrastis in Metrorrhagia.—This medicament, whose vascular action has been physiologically demonstrated, can be prescribed in the form of pills, tincture, syrup, elixir, and decoction:

1. Pills of hydrastis: According to M. Cabanes, they are prepared through reducing by evaporation, 20 grammes of the fluid extract to 6 grammes of dry extract. The formula would be: Dry extract of hydrastis Canadensis, 3 grammes: extract of ergot, iron by hydrogen, ää 1.50. For 60 pills, of which 2 to 5 should be administered every 24 hours.

2. Tincture of hydrastis: It may be prescribed in water in the quantity of 20 to 40 drops per day.

3. Syrup of hydrastis: M. Cabanes states that a syrup can be prepared containing 100 parts of fluid extract to 1000 parts of sugar. Dose, 2 to 3 tablespoonsful *per diem*.

4. Elixir of hydrastis: M. Dujardin-Beaumetz advises the use of the following mixture to mask the taste of the tincture of hydrastis: Tincture hydrastis, 10 grammes; elixir de Garus, 100 grammes. Each spoonful contains 1 gramme of hydrastin. 1 to 2 grammes daily can accordingly be prescribed.

5. Decoction of hydrastis: This preparation is little used. M. Cabanes "doses" it at the rate of 60 grammes of hydrastis root per litre of water.—*Le Mercredi Médical*, April 23d, 1890.

The Antiseptic Tin Dressing for Chronic Ulcers of the Leg.—The last report of the Boston City Hospital contains an account of tin dressing for ulcers of the leg, used by Dr. Francis S. Watson, at that institution. The ulcer and surrounding surface are soaked in a solution of corrosive sublimate, one part to 4.000, for ten to fifteen minutes. The surface about the ulcer is then dried and thoroughly cleansed, the ulcer itself being lightly dusted with calomel or iodoform. A piece of protective of Mackintosh cloth is then cut out, the shape of the ulcer, and in size a little larger, covering a little more than the surface of the ulcer. Next a piece of sheet-tin is cut to the shape and size of the ulcer, and bent to fit smoothly the curve and contour of the leg at this point. This is laid over the protective, after that has been laid on the ulcer with as smooth a surface as possible, in order that, when the time comes to change the dressing, it can be lifted off without tearing up the newly formed tissues beneath it. Over the tin is placed a square of sterilized or sublimated gauze, dry, and outside of this a larger square of antiseptic gauze of some kind, enveloping the leg; then the whole is held in place by a bandage extending from the toes to the knee.—*Jour. of Amer. Med. Ass'n.*, May 17th, 1890.

Lanolin in Chapped Skin.—Lanolin in the form of powder is produced in the following manner (Il. Farm. Ital.): The lanolin is dissolved in ether, alcohol, chloroform, or aceton; the solution is mixed with magnesia, and the mixture dried; finally is pulverized and mixed in any desired proportion with amylum. In place of magnesia, zinc oxide, bismuth, baryta, or talc can be used, but then the powder would be of a darker color. In many skin diseases, especially where the skin is chapped, the lanolin applied in form of a powder is said to do excellent service.—*Zeitschrift des Allgem. Oesterr. Apotheker-Vereins*, April 20th, 1890.

Simple Remedy for Hiccough.—Jos. M. Loeb reports a case of obstinate hiccough which persisted for five consecutive days despite all manner of treatment, and which was overcome by the administration of a teaspoonful of sugar mixed with a teaspoonful of vinegar. The hiccough ceased even in the presence of the physician, as soon as the patient had taken the mixture. The next day toward noon the hiccough reappeared; the treatment was repeated with the same success.—*Supplement Therapeutique au Mercredi Medical.*

Medical Progress.

On Ouabaine in Whooping Cough.—Ouabaine is an alkaloid with the formula $C_{30}H_{46}O_{12}$, and is obtained by crystallization from a watery extract of the roots of the ouabaio, a plant nearly related to the *Carissa schimperi*. The juice of the ouabaio plant is used as an arrow poison by the Somalis in East Africa.

Ouabaïne, its active principle, occurs in rectangular crystals, which are white, transparent, colorless, and to a very slight degree bitter to the taste. It dissolves with difficulty in cold water, but much more readily in hot; it is altogether insoluble in chloroform or ether, and but to a slight extent in alcohol. Its best solvent appears to be partly concentrated alcohol, and this solubility is increased by heat.

Professor Gley and M. Arnaud, both of Paris, first studied the physiological effects of ouabaine in frogs, rabbits, and dogs, and they found that in a frog $\frac{1}{2600}$ grain caused death by arresting the heart's action. In a dog, $\frac{1}{875}$ grain produced marked slowing of the respirations, without much cardiac disturbance; $\frac{1}{260}$ grain first stimulated and then slowed respiration, until it ceased completely. Subcutaneously the drug was found to act much more powerfully than when given by the stomach; and $\frac{1}{65}$ grain, introduced into the blood through a scratch or otherwise, is said to be fatal to man.

Dr. Percy Wilde was the first to suggest the use of ouabaio in asthma and whooping-cough, but I am not aware whether he has actually employed it in these diseases. So far as I know, the following observations are the first on record of the use of ouabaïne in practical therapeutics. In this instance its use has been limited to cases of whooping-cough.

Treatment was begun in the first case on October 31st, 1889, and very small doses were employed at the outset: $\frac{1}{5200}$ grain (or half the lethal dose for a frog) was considered sufficient to start with, but this was quickly found to have little or no effect in controlling the disease. Accordingly the strength of the dose was increased from time to time, until it was found that the standard dose for, say, a child aged five years was $\frac{1}{1000}$ grain in solution every three hours. Under this dose, if the case was one of moderate severity, the number of coughs and whoops usually rapidly diminished, but in two cases where the children were much prostrated by the violence and frequency of the cough, even this dose was found to be too small, and to them first $\frac{1}{600}$ grain, and latterly $\frac{1}{260}$ grain was given every three hours. This is equal to about $\frac{1}{33}$ grain daily, and is nearly double the strength of the dose advocated by Professor Gley, who, in a recent communication, estimates the maximum daily dose for an adult as 1 milligramme ($\frac{1}{65}$ grain).

Forty nine cases of whooping-cough have been treated with ouabaïne. Of these, 25 have been dismissed well, 4 died, and the remainder are still under observation. Of the four fatal cases, one died from diphtheria, one from tubercular meningitis, one from acute capillary bronchitis, and the fourth from gradual and progressive emaciation. None of the fatal cases were under treatment with ouabaïne for a longer period than 10 days—one of them only for 4—and in all of them ouabaïne had been stopped at least a week before death took place. In none of the fatal cases were there any symptoms which might have been interpreted as indicative of ouabaïne poisoning.

Throughout the treatment of these 49 cases, careful record was kept of the temperature, pulse, respiration, urine, skin, etc., and the effect of the drug on the number and character of the coughs and whoops of each patient in each twenty-four hours closely watched. Except in one case (a remarkably severe one), treatment was not begun until the patient had been eight days in hospital; this was to enable comparison to be made of the periods before, during, and after treatment. No patient was dismissed until at least a fortnight after the last cough had been heard. It is on the observations mentioned that the following general conclusions are based:

1, Ouabaïne is of marked benefit during all stages of whooping-cough, and, if carefully used, produces gratifying results. In the first stage, it cuts short the attack; in the second, it reduces the violence and frequency of the cough, and diminishes the number of whoops; and in the third, it hastens convalescence in a remarkable manner. The following cases emphasize this:

Case I.—C. M. aged 7; fifteenth day of illness. On admission (December 2d), he had 16 coughs with 20 whoops in the first twenty-four hours. From December 2d till 9th, average daily coughs 14, whoops 11; $\frac{1}{1083}$ grain ouabaïne was given every four hours, beginning on December 9th. The whoops ceased on December 25th, and the coughs on the 23d. The ouabaïne was kept up, however, till January 5th; total amount given, $\frac{1}{7}$ grain. Patient was dismissed well on January 8th.

Case II.—M. A. E., aged 7 years; fifth-eighth day of illness. On admission (December 16th), she had 17 coughs with 122 whoops in the first twenty-four hours; there was also profuse vomiting and bleeding. From December 16th till 25th, average daily coughs 16, whoops 74. $\frac{1}{1000}$ grain ouabaïne was given every four hours, beginning on December 25th. On the 28th it was noted that "the duration of each cough is less, and the violence of each paroxysm undoubtedly diminished." On December 31st there were 8 coughs with 17 whoops, and the bleeding had ceased. On January 5th there were 2 coughs with 4 whoops, and the patient no longer vomited. On January 10th the last whoop was heard, but an occasional cough remained till January 26th, when it also ceased. The ouabaïne was continued till January 31st, and the patient was dismissed well on February 14th. The total amount of ouabaïne given was $\frac{8}{10}$ grain nearly.

Case III.—W. I., aged 7 years; forty-third

day of illness. On admission (October 22d), he had 15 coughs with 34 whoops in the first twenty-four hours. From October 22d till 31st, average daily coughs 14, whoops 27; $\frac{1}{10000}$ grain ouabaïne was given every three hours, beginning on October 31st. There was a total cessation of whoops on November 6th, and of coughs on November 13th. The ouabaïne was stopped on November 16th; total amount given, $\frac{1}{11}$ grain nearly. Patient was dismissed well on November 30th.

2. Ouabaïne is a drug which does not appear to be cumulative; its administration can be stopped suddenly without any ill effect beyond an exacerbation of the whooping cough; it can be as suddenly resumed.

Date.	Ouabaïne.	Fits of Coughing.	Whoops.	Day of Illness.
October 16th ..	—	29	38	24th
" 20th ..	—	20	48	28th
" 25th ..	—	23	42	33rd
" 29th ..	—	20	44	37th
" 30th ..	1-5200 grain every 4 hours	—	—	38th
November 3rd	—	18	40	42nd
" 4th	Stopped	—	—	43rd
" 10th	—	25	156	49th
" 11th	—	29	144	50th
" 12th	1-2600 grain every 4 hours	27	88	51st
" 16th	1-1950 grain every 4 hours	19	38	55th
" 24th	—	15	28	63rd
December 7th	—	3	2	76th

The foregoing table shows the action of the drug in the case of a child 1 year old. Similar results have been observed in similar circumstances in other three cases.

3. Ouabaïne should be given, at first at any rate, in doses not larger than $\frac{1}{10000}$ grain every three hours ($\frac{1}{120}$ grain daily).

4. For children under 1 year of age the dose should not exceed $\frac{1}{20000}$ grain every three hours.

5. In children of from 6 to 12 years of age, if the cough be very violent, and the whoops are numerous, $\frac{1}{5000}$ grain may be given in each dose, but the action of the drug must be carefully watched.

6. Ouabaïne may be given alone dissolved in water, or in combination with potas. bromide, or chloral hydrate. The simplest way is to dissolve one grain of ouabaïne in distilled water, so that each minim of the solution shall be equal to $\frac{1}{15000}$ grain ouabaïne as:

℞ Sol. ouabaïne, ♏ 48,
Syr. aurantii, ʒ iv,
Aq. ad ℥ vi.

M. Sig. A teaspoonful every three hours.

All the cases under review were treated in the above way.

7. Under the administration of ouabaïne it is found that the temperature, pulse and respiration are, in uncomplicated cases, slightly below normal. When the drug is pushed the respiration, as might be expected, becomes very slow indeed; in one patient, aged 4, it was often as low as 16 per minute. It is from this side that danger is to be expected.

An occasional irregularity of the pulse has been noted, and this always occurred in the evening:

	Morning.	Evening
Average temperature	98.4°	97.8°
" pulse	102	96
" respiration	26½.....	27½

8. Ouabaïne seems to promote the action of the skin. Within a few days—always less than seven, and usually three—of beginning treatment, patients are noticed to be perspiring freely, and this is observed to continue so long as the drug is being given. The patient ceases to perspire so freely shortly after the drug is stopped.

9. The movement of the bowels is regular; the average number of motions daily is 1⅓. In no single instance was there any of that diarrhœa which is usually so troublesome a feature in whooping cough.

10. The total amount of urine passed is slightly increased. The amount in each case of course varies with the age of the patient. The average daily amount over the whole 49 cases was 14½ ounces. The average age of each patient was 4 years 5 months.

It may be noted that in two of the cases under treatment, sugar was undoubtedly present in the urine on admission. This began to diminish in quantity, in one instance within three, and in the other within five days, after treatment was commenced; and in the first case on the eighteenth, and in the second on the nineteenth, day of treatment, the urine was noted as being free from the slightest trace of sugar. It remained so during the remainder of residence in hospital.

It would be interesting to know whether the same result followed the administration of ouabaïne in diabetes mellitus.

11. Professor Gley points out that four drops of a solution of 1 in 1,000 produce in a rabbit marked anæsthesia of the cornea, which anæsthesia lasts for about two hours. I have failed to find this anæsthetic effect produced in any of my patients, although repeated experiments of a solution of the same strength have been made in nearly every case.

12. The appetite improves. This effect is striking, and has been noted in all the patients without exception.

13. The general physical condition improves considerably. This effect also is undoubted, although it is to be regretted that accurate data as to the weight of each patient before and after treatment are wanting.

14. The sleep is sound.

I have no doubt that part, at least, of the effects noted in 12, 13, and 14, is due to the diminished frequency and severity of the cough rather than to any direct action of the ouabaïne.

I have to say, in conclusion, that the statements regarding the physiological action of the drug are based on a paper, "*Sur la Toxicite comparée de l' Ouabaïne et de la Strophanthine*,"* by M. E. Gley, and on a paper, "*Sur l'Action Physiologique de l'Ouabaïne*,"† by MM. E. Gley and P. Rondeau —Dr. Wm. Gemmell in *British Med. Jour.*, April 26th, 1890.

*Comptes Rendus Hebdomadaires des Séances de l'Academie des Sciences, Séance du 30 Juillet, p. 348.

†Comptes Rendus de la Société de Biologie, Séance du 5 Mai, 1888, p. 421.

KLOPHEL ON THE PREVENTION OF URETHRAL FEVER.—The author lays stress upon the following points:

1. In operating for the relief and cure of chronic retention of urine, the complete evacuation of urine at first should not be permitted, but rather the withdrawal of only a few ounces, and the immediate injection of a solution of boric acid or other mild antiseptic, in volume equal to one-half the quantity of urine withdrawn, lessening with each succeeding injection the quantity of fluid thrown in, and increasing the amount of urine withdrawn. As a result, we have less shock, if, indeed, any; no suppression of urine; no hæmorrhage from the urinary organs; and slight, if any, so-called urine fever.

2. Tight strictures of the membranous urethra are more successfully, and hence more safely, dealt with by perineal section. When associated with strictures of the pendulous urethra, the combination of internal and external urethrotomy is undoubtedly the best treatment.

3. The decomposition of blood, urine, and other organic matter, in the bladder or urethra, may give rise to the phenomena of urethral fever through the production of ptomaines; hence the necessity for antiseptic treatment, generally and locally.

4. The disease is more common among those who are predisposed to it by a peculiar nervous temperament.

5. In view of the fact that more or less shock attends all urethral operations, especially the forcible and rapid dilatation of old strictures with sounds; and as sudden death has followed even the gentle insertion of a sound the calibre of which was less than that of the stricture, it is hence important that all practicable antiseptic precautions should be observed in every case of dilatation of a urethral stricture or strictures, with a view to avoiding, so far as possible, such effects, which are more likely to follow the rapid dilatation of old strictures when not preceded by internal urethrotomy.

6. It is also important to ascertain the condition of the bladder, urine, and kidneys, before operating for stricture of any degree, and when these two organs are found extensively diseased, the greatest skill, gentleness, and patience are necessarily called for in the treatment of strictures. Further, when these organs are diseased, and we have to deal, in a given case, with several strictures of very small calibre of the pendulous urethra, two courses compatible with safety are presented, viz: Gradual dilatation alone, or internal and external urethrotomy, leaving a few days between the internal and external operation, the latter being done first.

7. Quinine, in any quantity, exerts no manifest influence over the course of urethral fever.

8. Boric acid, internally, by its resolvent and antiseptic action, doubtless does exert a favorable influence upon the disease, and will prove a prophylactic if given some days before operating.

9. With a further view to prophylaxis, both before and after all operations upon the urethra — even simple catheterism — the canal should be injected with some mild antiseptic. This is more essential after each act of micturition subsequent to internal urethrotomy.

10. When urine fever persists despite all treatment, or should it after any operative interference with the urethra jeopardize the patient's life, perineal section should certainly be done.—*London Med. Recorder*, April 20th.

THE UTILITY OF PEPTONIZED MILK.—With a view to the furnishing of a food which may be utilized to the fullest by the hungry, weary, worn and burning tissues of the fever victim, we should give our constant attention to the subject, aiding the attendants of the sick room with suggestions and practical demonstrations. Organized capital has fortunately developed great possibilities in the direction of feeding the sick in these modern days. In peptonized milk we have that which we can absolutely rely upon as being promptly utilized. It is most readily prepared by adding to a pint of milk, warmed to about 100° F., a tablespoonful of Parke, Davis & Co.'s liquid pancreatin, with 20 grains of sodium bicarbonate previously dissolved in a gill of water. The mixture is kept in a warm place until the opaque whiteness of the milk gives place to a grayish color, and a distinct but not too pronounced bitterness is developed in it. As soon as this stage of change is reached, the milk should be moved to a refrigerator, or cooled rapidly by other means, to prevent further action of the pancreatin. It should not be kept more than a few hours after it is prepared; the best way is to make it fresh as often as it is wanted, and this involves no more trouble than would be required for preparing the simplest article of food. The milk, if completely peptonized, is already practically digested and ready for immediate absorption. It is no longer susceptible of coagulation by heat or by the action of acids.

A very convenient way is to use Parke, Davis & Co.'s tablets or compressed pills of pancreatin, 2½ grains, put up together with separate tablets containing each 10 grains of sodium bicarbonate. Put a pair of the tablets, which contain a quantity of pancreatin just sufficient to peptonize one-half pint of milk, in half a gill of tepid water, and stir at intervals until they are completely disintegrated. Add then half a pint of milk previously warmed to blood heat, and allow the mixture to stand in a warm place until peptonization has proceeded to the desired extent.—*Post-Graduate Journal*, April, 1890.

RHUS TOXICODENDRON IN NEURALGIA.—*Rhus toxicodendron* has proven so valuable in certain neuralgias, that I think its properties should be more generally known, and would like to add a few confirmatory cases to the long list by Dr. John Aulde, in the October Therapeutic Gazette.

First. I have tried it in some cases with wholly negative results, and am unable to differentiate the cases where it will do good and where it will not.

Second. That the good results were produced by small doses, and large doses produced wholly negative results.

The dose in each instance was half a drop of Parke, Davis & Co.'s fluid extract, there being a great difference between different preparations.—C. M. Cook, M. D., in *Medical Record.*

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Original Articles.

ASEPSIS.*

BY DR. PAUL REYNIER.

When one examines the progress made by surgery during the last two or three decades, he sees how far we are removed from those deplorable times when, Roux at the Hôpital St. Louis lost 500 out of fifteen hundred patients who had undergone surgical operations, and in certain hospitals there were wards that at certain periods of the year were very properly designated as "*black wards*," since in them the prognosis was almost always fatal so far as surgical procedures were concerned. Velpeau said that the prick of a pin was a door opened to death, and we all remember the frightful mortality which during the late war attended surgical operations among our soldiers, when purulent infection, hospital gangrene, and erysipelas, reigned in the hospital wards. To-day, the first two affections are no longer seen; our pupils know them only from their books, and listen with astonishment when we narrate the ravages of these scourges. Perchance, they may have seen now and then in our isolated *pavilions*—but contracted outside—a case of surgical erysipelas around a neglected wound, but they do not see such as a sequel of operations performed antiseptically in the hospital. In fact, by the scrupulous care with which we close and dress wounds, we almost never see either suppuration or surgical fever. These results we owe to asepsis, the principles of which are applicable both to surgery and to midwifery.

Why *asepsis*? Why not *antisepsis*? What difference is there between these words?

If the landlord whose apartments you occupy keeps your sleeping room absolutely free from vermine, he performs *asepsis*. If some night, after sleeplessly fighting these pests you make up your mind to employ insect powder, and thus obtain exemption from their torments, you are performing *antisepsis*. Asepsis, then, is the absence of the foe, and antisepsis is the combat with it.

In surgery, the vermine take the form of micro-organisms, such as are designated under the names of bacilli, bacteria, micrococci, streptococci, cocci, etc., etc., accordingly as they take on the appearance of rods, dots, chaplets, etc., or possess or are deprived of movements.

Breeding at the surface of a wound, acting by their presence or by the products of their secretion (ptomaines,—virulent alkaloids), they become the provocative agents of suppuration, or of those more terrible complications, erysipelas, purulent infection, and hospital gangrene. To explain their presence in wounds, three theories are prevalent, which complete each other and have a manifest bearing on treatment:

1. That of *ferment germs*, is best known, and is connected with the names of Pasteur and Lister.

2. That of *contagium germs*, advocated by Leon Lefort.

3. Of *pathogenic microbes*, the most recent, and elaborate, as the result of the researches of Duvaine, Pasteur, and Koch.

The first theory was broached in 1869, in consequence of Pasteur's labors on fermentation and putrefaction. At this epoch he promulgated that which had been more than hinted at by Schwann and Cagniard de Latour in 1837, viz., that fermentable or putrescible matter can only undergo fermentation or putrefaction in contact with air, or with certain germs which the air contains. Deprive air of these germs, filter them out by passing through a layer of wadding, and the matters brought in contact with this sterilized air will no longer ferment or putrefy.

These data were almost immediately applied to the treatment of wounds. Surgeons thought that the phenomena which take place at their surface must belong to either fermentation or putrefaction, and in order to kill the germs, Lemaire advised the use of phenic acid.

Alphonse Guerin, taking a hint from laboratory experiments, devised a new method of treating wounds by surrounding with a thick layer of antiseptic wadding which filtered the air, rendering it inoffensive. This was quite a step in the way of progress, and effected a decided diminution in the mortality after major amputations. Unfortunately, however, Guerin's dressing was not complete. The wadding-dressing covered wounds had been subjected to sufficiently prolonged contact with the germs of the air, and the surgeon thus shut up the wolf in the fold. This ex-

*A lecture delivered before the Society of Practical Medicine, Paris, France, April 24th, 1890.

plains the failures which sometimes attended the dressing.

Better instructed, Lister, in 1867 utilized the properties of phenic acid, and instituted a system of dressing which has since been called by his name. He not only taught how to cover the wound with carbolized gauze, but insisted that the hands of the surgeon should be scrupulously clean, and his instruments purified by long immersion in a phenic acid solution; further the wound during operation was to be subjected to a spray of the same solution to prevent infection by germs. Lister completed the dressing by closing the wound rapidly so as to produce as perfect coaptation as possible of the bleeding surfaces, and a drainage tube to give issue to any putrescible liquids which might accumulate, and thus save the parts from the tension which, in his judgment, played a certain rôle in the phenomena of suppuration. By this it is seen that it was not a new dressing, but a new method which Lister introduced; and this method was speedily adopted in other countries, and gave an immense impetus to surgery, almost reducing to *nil* the mortality after operations. Nevertheless, on certain points the Listerian doctrine of ferment germs was defective.

Surgeons were not slow to remark that air is not always so formidable to wounds, and that it only became a source of danger under certain well determined conditions. It is a recognized fact that operations in the country succeed without all these precautions being taken, and that open wounds may be freely exposed to the air without the grave consequences that so frequently attend the surgery of large cities and especially their hospitals; though in the country, as in the city, the air must contain ferment germs, since fermentation and putrefaction go on as well in the one place as in the other. With the second theory we have an explanation of these different results, which depend on the location where the surgeon operates.

According to Lefort, hospital gangrene, purulent infection, and septicæmia, never develop except there is brought to a patient who is in a state of receptivity, a contagious germ, which originated in another patient suffering from one of these affections; and the transplantation is usually made by the fingers of the surgeon, by his instruments, etc. It is these that he should take pains especially to disinfect, without preoccupying himself with the air. In testimony of his faith in this view, Lefort leaves with impunity, in the wards of his hospital, uncovered and without dressing, wounds made by him with instruments rendered thoroughly aseptic before being used. This theory of direct contagion is of capital importance; and I mention that it may be understood with what care the surgeon should attend to the cleanliness of his instruments, and what precautions he should take if compelled to approach a focus of contagion.

Unfortunately, this theory is too exclusive; there is no proof that the air may not at a certain moment be the carrier of this contagious germ and become the agent of virulence. To refer to my own experience in a certain number of cases, the noxious action of the air, or rather of certain kinds of air, has seemed to me apparent. We have all observed special cases of erysipelas where direct contagion could have had no part. It is necessary, in fact, that to the ferment germs which are everywhere found there should be added certain pathogenic germs, which we may, with Lefort, term contagion germs, or we may endeavor to specialize after the manner of modern microbiologists. This work of specialization began with Duvaine, who showed that malignant pustule was due to a certain bacillus which, when inoculated on another animal, reproduced the affection.

In 1878 Pasteur found in the water which flowed from the sink in his laboratory a micro-organism, the *staphylococcus pyogenes albus*, which when inoculated produced suppuration; since which, the number of special microbes has augmented. Erysipelas, purulent infection, puerperal fever, have their special microbes; but it is possible that the number is less great than was at first supposed, for more recent researches show that the same micro-organisms in undergoing development take on quite dissimilar forms, and produce quite variable lesions—sometimes local lesions, sometimes general symptoms. The researches of Vidal (1889) show that the micro-organism of puerperal infection, of erysipelas, and of puerperal phlebitis, is the same, and this gives support to this statement.

What is of importance for us to know however, is that the complications which once seemed spontaneous and the natural consequence of the wound, are due to special microbes. These may be transported from one patient to another by the surgeon, his instruments, by the surrounding air, or by water, and the absence of micro-organisms implies absence of pus, the absence of fever, the absence of every complication. This is the ideal to which every surgeon should aspire, and this ideal he attains by asepsis.

If the microbe, despite all the precautions taken to exclude it, has been conveyed, and has found means to develop, nothing remains but to combat with antiseptics,—substances capable of arresting its development, destroying its virulence, and putting it in a condition where it can do no harm. Here we have a battle to wage, and a most difficult warfare it is.

The great majority of physicians and even

surgeons are disposed to ascribe too extraordinary virtues to antiseptics. It is supposed by some that every antiseptic solution, though of a strength that is tolerated by the economy and produces no damage to the tissues, is a germicide in the strict sense of the term;—that for instance we have only to touch a wound or ulcerated surface with a carbolic solution—5 per 100,—or a sublimate solution—1 per 1000,—to overwhelm and destroy all the microbes. Those who believe this, know but little of these micro-organisms, some of which resist temperatures of 212 F. and the action of very energetic acids. The resistance of these microbes, or of their germs, is often greater than that of the animal cells, the agglomeration of which constitutes our individuality; and it may be said that every substance that kills the micro-organisms, if it acts at the same time on the animal cell, modifies its vitality, whether momentarily or permanently; in other words every germicide is at the same time a cellulocide.

The best antiseptic is the one which acts at the same time the most on the contiguous animal cell; and to be sure of a germicide action we make use of caustics, such as the red-hot iron, and concentrated acids. But such caustics can not be applied to a large surface, and in employing without judgment the surgeon would be like the bear in the fable that employed a rock to kill the fly on its master's nose. In doses which are not toxic and which are not caustic to the animal cell, the antiseptic can act but slowly and not very surely.

It is true that if we put in sterilized broth a drop or two of the same charged with microbes, we succeed with weak antiseptic solutions in killing or arresting the development of these micro-organisms; but in the patient things take place differently, as is seen by comparing laboratory experiments with clinical experience. Take, for instance, the experiments of Jalan de La Croix, on the action of antiseptics in the laboratory: Into a quart of sterilized broth, he let fall two drops of a broth swarming with microbes, and immediately applying an antiseptic, endeavored to find the dose necessary to arrest the development of these microbes in order to prevent their multiplication in this new culture medium. Now, according to him, the minimum dose for a litre is 4 centigrammes of corrosive sublimate and 1½ grammes of phenic acid. But if he gives the bacteria time to develop, it requires 17 centigrammes of sublimate and 45.55 grammes of phenic acid—proportions such as we dare not use in medicine or surgery.

When we pour three ounces of a solution of bichloride, 1-1000, or of phenic acid, 1-20, on a wound, we make no pretension that it destroys all the infesting microbes. Further, these microbes are in the midst of the cells that constitute the tissues, in the interstices of the connective tissue, and along the vessels, ascending by their side to a greater or less distance. Every washing or irrigation is relatively short, and we cannot expect without somewhat prolonged contact of so dilute an antiseptic, to put the microbe *hors du combat;* beside different microbes demand different strengths of antiseptic, and it is impossible in practice to adjust the latter to those that are still largely unknown. Again, by the side of the microbes we have their spores, which are still more resistant and more difficult to reach; their size is of such minuteness that the highest microscopic objectives often fail to bring them to view, and the reality of their existence is proved only by the success or want of success of the inoculation of the liquid which contains them, as the germs reproduce the infection.

Now Jalan de La Croix has endeavored to find the dose necessary to kill these germs, and from his experiments, it appears that it takes for a litre of broth half as much more corrosive sublimate, and more than eight times as much phenic acid, as when the experiment has to do with the bacteria alone. We may repeat that the germicide action of antiseptics, with the exception of the hot iron and caustics—however, the case may be with laboratory experiments—is a delusion in practice. Under Lister's dressings, erysipelas has been known to develop; I have seen it, and so have my colleagues. In these cases, the microbe of erysipelas had been brought there, and despite the action of phenic acid, despite the dressing, it had been able to undergo development in the wound. Lastly, Miquel has shown that in 5 per cent. carbolic solutions made with unsterilized water, certain micro-organisms may thrive and multiply.

It is not upon the germicide action of antiseptics then, that we rely. If we have kept a wound aseptic, we will be able to maintain the aseptic condition with feeble quantities of antiseptics; this is in accordance with the experiments of Jalan de La Croix. Moreover, antiseptics have the property, even when quite dilute, of modifying the culture soil, rendering it less fit for the development of the microbe, which in consequence loses its virulence; it is not killed, but ceases to be dangerous. This explains why, in spite of the most perfect antiseptic dressings, we find microbes on the wounds, microbes which have done no harm, and have manifested their presence by no disorder.

If there is pus on a wound, that is to say, if there are microbes there, on frequently washing out the contaminated place we remove by mechanical action a multitude of microbes, and by our antiseptics restrain the growth and pullulation of those that remain; we prevent the economy from being invaded by them, and give it time to recover its forces so as to

get completely rid of the microbes. We see then that antiseptics can render us great service; but by showing that their action is limited, I have endeavored to impress the fact that one should not have an exaggerated confidence therein, and that it is better for the surgeon to endeavor by asepsis to avoid the need of antisepsis.

Asepsis should pertain to the environment of the operation, to the room in which the patient is obliged to remain, to the surgeon himself, his assistants, his instruments, and everything used, and to the patient.

Asepsis of the environment cannot be safely neglected, since as already remarked contamination of the air by certain germs may make any operation dangerous. If we operate in the country in a well aërated apartment, we have little need to fear the action of the air, but this is not true of the great cities and their hospitals where the air is charged with pathogenic microbes, etc. Miquel's tables are instructive, in giving the differences which exist between certain kinds of air: Thus, while in the air of the summit of the Pantheon there were found 28 bacteria per cubic metre, in the heart of Paris the air contained 462, and at the Hôtel Dieu 6,300. At Petrié hospital, in one of the surgical wards, the number of bacteria was found to be as high as 11,100. In the city it is necessary to see that the room where the operation is to be performed, and the apartment afterwards to be occupied by the patient, are well ventilated; they should not have been occupied by patients affected with suppurations, erysipelas, typhoid fever, puerperal fever, etc.; also inquiry should be made whether they have been frequented by birds, dogs, or other animals, which by their dejections might contaminate the air.

The window should open out upon a large area, and not be over a stable or the mouth of a ventilating shaft or sewer; this first precaution is especially essential, as Professer Verneuil believes tetanus to be of equine origin: and though this fact has not been fully demonstrated, it is well not to be too near places where domestic animals are kept that are subject to the infectious diseases of man. The furniture of the apartment, moreover, should be plain so as not to present hiding places for dust and microbes, and hangings and tapestries should be proscribed. Every morning the floor should be mopped with a wet cloth rather than swept, as sweeping raises a cloud of microbic dust which may find lodgement on the patient.

In hospitals and *maisons de santé* we are obliged to take even greater precautions. The floor should be covered with linoleum or rubber cloth that can be easily washed; a cemented floor perfectly smooth and without chinks to catch the dust is better still. The walls should be coated with oil paint, so that they may be washed readily and often with strong antiseptic solutions of zinc, corrosive sublimate, etc.; and the fewer angles, juttings and corners to catch dust the better.

Two workmen in the General Hospital of Munich contracted small-pox in consequence of scraping off and renewing the whitewash coating in the small-pox ward, though this ward had remained unoccupied for a year.

But disinfection should be carried farther. In the *maisons de santé*, numerous boarders may have to occupy the same room during the year, and one may be obliged to use as an operating or a sleeping room, an apartment previously occupied by a patient with infectious disease, perhaps even erysipelas. In such case, before the room is again occupied, especially by a surgical case, it should be closed tightly, with all keyholes and chinks stopped, and a quantity of sulphur burned therein (50 grammes to every cubic metre), to insure perfect fumigation; vapor of water should also be admitted, and the walls and floors made moist, to insure the action of the sulphurous acid; and finally, the room left closed and full of the sulphurous fumes for three days.

Without accepting altogether the views of Lefort that it is solely by the fingers and the instruments that contamination takes place, I still think with him that direct contamination by everything that touches the patient is the most frequent cause of the complications of wounds. He (Lefort) attributes the relatively trifling mortality of the English maternity wards* to the scrupulous cleanliness of the hands of English obstetricians. In 1847, Semmelweis, at the General Hospital of Vienna, seeing his wards decimated by puerperal fever, which spared the neighboring wards reserved for the midwives, conceived the idea that the fever was due to the medical students who conveyed infection on their hands from the dissecting-room. He made the latter wash their hands in a chlorinated lime solution, and this simple expedient caused the mortality to fall to 3½ per cent.

It is not easy to attain to complete asepsis of the hands. A simple washing with soap and water, however prolonged, is not sufficient, nor is it enough after this ablution to dip the hands in a 5 per cent. carbolic acid solution, as Lister recommends, for, if after this cleansing the finger be plunged into a tube of sterilized gelatin, the latter will be found in a short time to be swarming with microbes. Furbringer advises to cleanse the hands with a brush in soapsuds, taking special care to clean out the subungual spaces, and then plunge into a sublimate solution 1:1000, or into a phenic acid solu-

* In Guy's Hospital 1 in 331 only in 1861, while in French hospitals the same year the mortality among lying-in women was 1 in 30.

tion 1:20, keeping there two minutes, and not to wipe the hands lest the asepsis be compromised by contracting germs from the towel. I have personally known this very mistake to be made. Again, during the operation the hands of the surgeon and his assistants should frequently be dipped into the antiseptic solution; they should also roll up their sleeves to the elbows, lest such should touch the wound and thus be the agents of contagion. At the hospitals we have adopted the white frock, which is easily cleansed and can be passed through the disinfecting stove.

How many times I have seen a surgeon thoughtlessly put the handle of his scalpel into his mouth, a cavity full of microbes, and thus infect his instrument! I have also seen surgeons during operation wipe their knives on cloth of whose aseptic condition there was no certainty, or scratch the nose, or even pass the fingers through their hair, and without asepticizing them again, touch the patient. These are dangers that must always be borne in mind.

The Germans, more painstaking than ourselves, have carried these precautions farther, and some even advise the surgeon to take a bath before operating. Certainly it is better to err in the direction of excess than otherwise.

Many means have been advised to secure asepsis of instruments. One of those often employed but the least sure, is to immerse them in a 1:20 solution of carbolic acid (sublimate water cannot be used as it rusts the metal). Lister believes in the efficacy of this process provided the instruments have been well washed, brushed and cleansed before putting them into the antiseptic solution, and that they have been kept in the latter at least fifteen or twenty minutes; but Redard has shown that if the instrument has slots, grooves or creases, or if it has been previously contaminated by pus or microbes of any nature, disinfection by phenic acid can only be illusory and disappointing. Miquel also declares that carbolic solutions (1:20) contain living germs; at the end of two days immersion in a five per cent. solution, the germs of *bacillus subtilis* were not destroyed. Sponges, sounds, etc., impregnated with different kinds of virus, after being immersed in this officinal solution twenty-four hours, were found not to be sterilized, since they would prove a focus for a microbe culture when brought into contact with sterilized broth.

Boiling water has been proposed to secure the asepsis of instruments and appliances, but many germs resist a temperature of 212° F., hence it is necessary to employ temperatures of from 250° to 300° F., which may be obtained with certain liquids, such as oil, glycerin, vaselin.

But more practical and more certain, is disinfection of instruments in hot air stoves —(In the "autoclave" of Redard, the instruments are subjected for half an hour to steam at 212° F. under pressure). All experiments have proved that micro-organisms the most resisting are in these conditions completely destroyed; but the instruments on removal from the stove should be plunged into a 1:20 solution phenic acid, and remain till they are wanted; in our hospital we disinfect our sponges in the same way, and the same precautions should to be taken with regard to ligatures, etc. We let our catgut ligatures soak in a strong phenic acid solution a month; they may then be chromicized, and if thoroughly aseptic may be left with impunity in the tissues where they never cause abscess or suppuration. For antiseptic solutions, I recommend nothing but distilled water, or boiled water, and I cannot too greatly caution against using ordinary water. In rain water, Miquel found 64,000 microbes per litre; in Seine water, 4,800,000; Vanne water, which is regarded as of relative purity, 248,000.

The patient should be made as aseptic as possible by shaving the hair in the vicinity of the wound, by scrubbing the region which is to be the seat of the operation with soap and water, with alcohol at 90°, and finally with a sublimate solution. Protect the surroundings, both above and below the seat of operation by swathing with phenicated or otherwise sterilized linen. Then, if the hands or instruments touch these parts which may not have been sufficiently disinfected, no contagion will be conveyed; for microbes breed freely on the skin in the excrementitious coating formed by the sweat, the sebaceous matter, and desquamated epithelium.

During the operation, as soon as through using an instrument, it should be replaced in the phenic acid solution, and if it should happen to fall on the floor or touch any non-aseptic object such as clothing or drapery, or be accidentally placed on a table, it should be put to one side and not again employed; the same applies to sponges and everything else.

In order to kill the germs of the air, Lister advised to operate under a constant spray of phenic acid, but in France, in rooms where no patient suffering from any infectious disease has been at any time confined, this precaution may be omitted. In hospital wards it is a good practice to keep up the spray during the operation, not to kill the germs, but to destroy their virulence. The spray however, has the inconvenience often of provoking fits of coughing which complicates the chloroformization and wets and chills the patient; it has even been accused of causing pneumonia; and I have myself seen pulmonary inflammation which I deemed attributable thereto, therefore, when I use it, I take the precaution to cover the pa-

tient well, and as far as possible keep dry cloths about him. I also maintain the temperature of the room at 68° F.

Having taken all these aseptic precautions, we may unite the lips of the wound and close completely; reunion should take place without fever or suppuration. The stitches should be removed at the end of the week, cicatrization being complete. The future dressing may be simply a compress of sterilized absorbent cotton. However, whatever precautions may be taken, we can never be sure that on the wound, or on the skin in its vicinity, some germ may not have been carried by the instruments, the air, the sponges, or have come there from the neighboring parts which have not been rendered sufficiently aseptic, hence, it is a good plan to use antiseptic dressings impregnated with sublimate solution, or antiseptic powders to prevent the germs, if they should be introduced, from doing harm. For this object, I was long in the habit of using Lister's dressing, but this being complicated, in order to simplify, I prefer to dust the wound with iodoform or salol, and cover it with gauze impregnated with these substances, or with sterilized absorbent cotton; clinical experience has shown that these powders are efficacious. Another precaution which favors asepsis is to insert in the wound before finally closing an aseptic soft rubber drainage tube; this is introduced deeply and opens by an orifice at the extremity of the wound or a little distance therefrom, and during the first twenty-four or forty-eight hours gives issue to the blood and serosity which oozes from the ruptured capillary vessels. This precaution is especially needful in wounds of considerable extent, as in ablations of the breast and major amputations.

Such are the principles that should guide in surgical operations. It is the carrying out of these principles that insures the success of brilliant and capital operations, and which inspires the surgeon of to-day with so much daring. This it is, moreover, that enables us to operate fearlessly when the patient is a victim of diabetes, phthisis, etc.; patients who were formerly regarded as not fit subjects for surgery on account of their great liability to septic infection.

But the greater the success and the more numerous the triumphs of the surgeon, the more heavy becomes his responsibility. In cases of want of success, it is no longer the condition of the patient that is blamed as being the cause—but the operator; and the latter can no longer say with Ambroise Paré: "I do the dressing, God takes care of the result," unless, in fact, the operation and the dressing have been irreproachable from the point of view of asepsis.

Far from me the disposition to decline this responsibility, which may be expressed by: *No suppuration, no infection unless caused by something imparted prior to or during the operation.* It is well that the surgeon should feel this responsibility, as he will be constrained to be more and more exact and careful in everything that relates to asepsis.

THE TREATMENT OF PHTHISIS PULMONALIS.*

BY JOHN A. ROBISÓN, A. M., M. D.†

The important discovery of the cause of tuberculosis, the numerous endeavors to find a specific, the failure of many vaunted cures, and the alarming fatality of the disease, justifies an attempt to erect a framework of treatment on which we can build a therapeusis according to the material, the resources, and the individual abilities at command.

My idea is that the therapeusis in each case must be planned according to the patient, his social relations, his environments, his wealth, and the judgment of his physician. But there are special lines of conduct that we may systematically study, which I present for consideration as follows:

1. The hygienic treatment. 2. The climatic treatment. 3. The medicinal treatment. 4. the dietetic treatment. 5. The surgical treatment.

Hygienic Treatment.—Two objects are to be gained in the hygienic management of patients predisposed to or affected by tuberculosis: First, its prevention: Second, its cure. And foremost among the means to prevent consumption, is the popular dissemination of knowledge among the laity as to the cause and conditions that promote its development. While it is probable that the disease is sometimes directly transmitted by heredity, this has not yet been unequivocally proven. Therefore, we may argue that when a man and woman marry, both of whom are in delicate health, their offspring will offer the least resistance to the ravages of the bacilli tuberculosis that may find entrance to the body by the inspired air or contaminated food. But it is a matter of clinical observation that if one branch of a family is of a robust constitution, free from any hereditary vice, the succeeding generations may be free from any tubercular disease.

But granted that there is present in any family a trace of tubercular disease, then the hygienic treatment for the prevention of phthisis pulmonalis should commence in infancy. The food should be such as is most easily digestible and nourishing; the child,

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should be taught to eat freely and relish fatty and leguminous foods; and as it grows older it should be properly and warmly clothed, should live almost continuously in the open air, and be allowed to enjoy outdoor sports. Its school hours should be short, and the intellectual education should be subordinate to the physical. Girls especially should not be allowed to become young ladies before their time; should not be permitted to wear corsets, eat late suppers, go to balls, or ape their fashionable mamas. Such exercises as playing ball, lawn-tennis, archery, swimming, boating, horseback riding, etc., may properly be indulged in by girls as well as boys. Again, a residence in the country is to be preferred to one in the city. As the age of majority approaches, the selection of the life avocation should receive serious consideration; the occupation should not be too confining, nor in close unhygienic quarters, nor tax too severely either the body or mind.

In case phthisis pulmonalis already exists, then the question arises, What means must we employ to arrest the progress of the disease? In my experience in the treatment of consumptives, I would tabulate the following hygienic means:

Respiration exercises, or deep breathing; breathing pure air.

Gymnastic exercises.

Sufficient rest and sleep.

Daily baths.

Dressing properly.

In the case of deep breathing we may employ two methods: 1. Breathing exercises without mechanical aids: 2. These exercises with mechanical aids to expand the chest.

The first consists in the patient lying flat upon the back, without the head elevated, and inspiring through the nose; it should be the aim to put into action the abdominal muscles and the diaphragm. Let the lungs be gently but fully filled with air, retaining it for a moment, and then expiring forcibly. As the patient becomes more expert, let him increase the frequency of the deep respirations until he takes *ten* to *twenty* per minute. These exercises should be indulged in twice or thrice daily, and the patients can lengthen the time of exercising until they occupy an hour each time. My experience in the treatment of phthisis by the inhalation of superheated air, led me to believe that the beneficial effects sometimes derived, were solely from the forced respiration thus inculcated.

The second method of deepened inspiration is by the coöperation of weights and pulleys; by this method it is possible to considerably expand the chest and increase the breathing capacity of the patient. There are three exercises that are very beneficial:

One consists in the patient standing upright with the hands above the head grasping the pulley-weights, and slowly bringing the arms down laterally to the sides of the thighs, at the same time filling the lungs by a gentle inspiration. The quickness of the movement may depend on the condition and temperament of the patient. Expiration takes place at the close of the movement. This exercise brings into action and develops the front and back of the deltoid, pectoralis major, latissimus dorsi, teres major, and serratus magnus.

Another is by increasing the antero-posterior diameter of the chest by lying flat upon the back, thus dispensing with the action of the serratus magnus, and pulling the weights from above the head straight forward without bending the elbows, until the hands reach the thighs. This exercises the biceps (slightly), pectoralis major, latissimus dorsi, deltoid, teres major, rhomboidii, and trapezius. The front of the upper arm, the belly, the front of the chest, side of the back, the shoulder, the back of arm-pit, and upper part of the back, are all developed.

The last exercise is: For the patient to go through the same motions as the first while lying on his back; it is a good exercise for weak or tired patients.

A great number of variations of these exercises may be instituted according to circumstances. Care must be taken, however, to begin gradually, so as to avoid fatigue or soreness of the muscles, especially in feeble patients.

These exercises are especially valuable in the treatment of cases of incipient phthisis. Many times there are evidences of slight deposits in the apices, and the patients are those who through carelessness, ignorance, or habit, do not fully inflate the lungs; hence the air seldom enters the apices, and the lung tissue does not receive its full quota of air—it soon loses its elasticity, the arterial and venous circulations become sluggish, and the tubercular deposit is left the sole occupant of the field and soon conquers it. By encouraging the patient to fully expand the lungs, fill the unused air vesicles with pure air, and thoroughly aërate the blood that passes through the neglected area, we do a great deal toward placing the tissues in a condition so that they can successfully resist the onset of the bacilli tuberculosis.

Pneumatic differentiation in combination with these lung gymnastic exercises is often of great value.

The Climatic Treatment.—It is not my purpose at this time to say the one-hundredth part of what might be said on this subject. I believe the choice of a climate is sometimes a matter of minor value, whereas physicians often consider it of prime importance, and, alas! how many hundreds of patients have been hurried to their death by being wrongly

advised to go some place to receive the benefits of a climate, to the sacrifice of good living, home comforts, good nursing, and cheerful companionship. *No climate is a specific.* In locating a consumptive patient, one should endeavor to secure the following advantages:

1. The climate should be such as to insure *pure air free from dust or poisonous germs.* Such air is more apt to be found at an elevation of over 1,000 feet above the sea level, or in mid ocean:

2. There should be an equable temperature, neither too warm nor too cold; the air should be in continuous motion, and yet there should be few wind storms:

3. There should be plenty of sunshine, and the scenery should be pleasant:

4. The patient should be able to take almost daily outdoor exercise, or be able to lie out doors if too feeble to exercise:

5. The health resort should be easily accessible, and home comforts with congenial society easily obtainable:

6. The practice of sending patients away indiscriminately is deplorable; each case should be carefully studied, and the resort chosen according to individual temperament, stage of the disease, wealth, and social habits.

Cases Unsuitable for High Altitudes.—1. Those in whom there is considerable affection of the bronchial tubes; the dryness of the climate increases the kind of bronchitis which commonly accompanies phthisis:

2. Patients with much emphysema or bronchitectasis, because of the probably diminished absorption of oxygen, and the difficulty of respiration experienced on first arriving:

3. Patients with disease of the heart must not go to a high altitude, because of its effect upon the pulse and respiration:

4. Cases liable to acute febrile attacks, whether or not these indicate an occasional increase in the lungs, should remain on a low level:

5. Patients who are very excitable, or suffer from insomnia, should not go, for high altitudes aggravate these symptoms. Women do not acclimatize so well as men:

6. Ulceration of the larynx and intestine are both of them contra-indications:

7. Cases in which there are very extensive lesions, or which are very advanced, are unsuitable:

8. Pneumonic phthisis, if at all acute, is made worse by a high altitude:

9. Patients who cannot take exercise should not go:

10. The very old or very young had better be treated at home:

11. Patients who suffer from or develop albuminuria.

Conditions that are not contra-indications, as is popularly believed.—1. Pulmonary Hæmorrhage.—It is now known that this, so far from being a contra-indication to treatment by high altitudes, is actually relieved by it, though the exact explanation cannot be given:

2. Fever.—If this is not excessive, and does not indicate any active changes in the lungs, it is often improved:

3. Simple Diarrhœa and Simple Dyspepsia.—These, are both of them benefited:

4. Night Sweats.—There is a common belief that these forbid this treatment; on the contrary, they often disappear on removal to a high altitude:

5. Cavities.—This is not a contra indication unless a very large area of lung is destroyed.

A mountain climate is advisable in all cases when there is threatened phthisis with a strong hereditary predisposition, or when there is poor thoracic development.

Treatment by Low-Level Climates.—There are two classes suitable for phthisis, the warm and moist, and the warm and dry. The first (warm and moist), such as the sea-coast, or sea-voyages, are most suitable for phthisical patients of an excitable and nervous type, or those suffering from insomnia or bronchitis. The warm and dry climates are best suited to sufferers from phthisis who have heart disease or albuminuria.

The Medicinal Treatment of Phthisis.—Over-medication is one of the evils to be avoided. It is a matter for wonderment that so many patients survive the wholesale administration of tonics, cough mixtures, antiseptics, villainous compounds of oil, etc. Too often the medicinal treatment of phthisis is mere routine. My plea is for less, but more scientific, medication. Let us differentiate the cases, and apply our remedies with definite objects in view. It is a sad fact, but nevertheless true, that we have not been able to obtain a specific for the cure of phthisis tuberculosis. There are all the vaunted specifics,—antiseptics, administered by the stomach, by inhalation and hypodermatically; rectal enemas of gases; intra-tracheal injections of creosote, and inhalations of superheated air,—but all have proven of little or no avail. Hence, it behooves us to hesitate a moment and ask what are the medicaments that should be employed, and when.

For the sake of brevity, I would make the following list of medicines with the indications for their employment:

1. *Tonics.* Iron, quinine, strychnine, arsenic, malt preparations, cod-liver oil, should all be used when the appetite flags, anæmia is present, or the nutrition fails. These preparations should be used as adjuncts to other methods of treatment for placing the tissues of the patient in such a condition of health as will enable them to withstand the attacks of the infusoria that may be distributed throughout the body.

2. *Antipyretics.* It is my opinion that antipyretics should not be used, except when sponging and baths fail to lessen the fever. Then, and then only, a continuous high temperature must be combated by antipyretic drugs.

3. *Astringents.* Diarrhœa and sweatings may be combated by astringents, such as tannic acid preparations, acids, the mineral astringents, and preparations of belladonna.

4. *Cough Medicines.* The simpler the remedies for alleviating the cough the better. The narcotic agents should not be used, except in extreme cases. Opiates should be avoided as long as possible, but if failure attends the use of all other remedies, and the cough is so distressing as to disturb the patient's rest, then they are justifiable.

4. *Alcoholic Stimulants.*—I am a firm believer in the beneficial effects of the judicious use of alcoholics. When there are no contra-indications, undoubted good results follow their administration in such quantities as to equal from one to ten ounces of absolute alcohol in twenty-four hours for an adult. All excess is injurious. After the patient has taken alcohol for some time, an increase in the daily amount will be allowable. Alcohol is antiseptic, antipyretic, and checks tissue waste. In Germany it is the practice, in cases of laryngeal phthisis, to have the patient gargle frequently with whiskey, as well as take it internally; in this manner the number of bacilli are decreased. Alcohol also increases the bodily nutrition to such an extent that the patients lives are often prolonged. I have now under treatment a patient, æt. 19, with tubercular consolidation of the upper lobe of the right lung, who gained 26 lbs. of flesh by taking whiskey and cod-liver oil during four months.

The Dietetic Management of Phthisis.—The manager of the cuisine holds the key to success in benefiting consumptives. The proper kind of diet and the way to serve it, are questions of prime importance. The preventive treatment of consumption begins generations back; oftentimes consumptives are suffering for the dietetic sins of their ancestors, therefore, as physicians we should instruct the families under our care to give to infants and children such food as will make healthy tissue. Fothergill pleasantly writes of the food that the children of phthisical parents should take—milk, crackers, oil, butter and sugar, and fatty food in general. As a prophylactic of phthisis, there is no doubt of the value of the proper diet in early life. In the dietetic management of consumptive patients there are several facts that must be considered.

1. The food should be *nicely* prepared and *daintily* served—in other words made attractive as well as palatable.

2. The stomach and intestinal canal must be in the best possible condition for the digestion and absorption of food. In case of catarrhal disease of the stomach or intestines, the systematic drinking of hot water, half to one pint an hour before meals, or washing out the stomach, will often prove beneficial.

3. The food must be varied, and to suit each individual case. The foods that are the most useful are, in order of their relative value: Animal foods of the nitrogenous variety especially beef, milk, eggs, mutton, poultry, fish, green vegetables; the farinaceous and starchy foods are of secondary importance. Butter should be used freely; cream with alcohol is often of great service.

4. Food must be taken frequently—at least six times daily, and at intervals of three or four hours.

I give my patients, as a guide, the following printed directions:

In order that your bodily nutrition may be improved as rapidly as possible, it is necessary that food should be taken at least six times in twenty-four hours; three full meals at intervals of six hours, with light lunches between. No more food must be taken at one time than can be comfortably digested in the time allowed.

Food should never be taken when suffering from bodily fatigue, mental worry, or nervous excitement. Before the full meals, rest in a recumbent position from 20 to 30 minutes, even if not sleeping.

As far as possible, each meal should consist of such articles as require about the same length of time for digestion; for example: First the starches, such as bread, potatoes, oatmeal, etc., with sugar; then albuminous food, such as meat, fish, butter, etc.

A very good plan to follow, when you can, is to regulate your daily diet according to the following menu:—

On rising.—A tablespoonful of cream with a tablespoonful of brandy.

Breakfast.—Oatmeal or cracked-wheat porridge, with little sugar and cream; rare steak or loin chops, with fat; cream toast; a soft boiled or poached egg; a half-pint of milk; a small cup of coffee if desired.

Lunch, 10 A.M.—A half-pint of milk, or a little beef soup, mutton broth, or koumys.

Dinner.—Soup, bread, butter, roast beef, mutton, game, at times fish, with potatoes mashed with cream or fried in bacon fat, vegetables, except such as are indigestible (pickles, cucumbers, etc.), and a half-pint of milk. Dessert: Fruit and cream, ice cream, chocolate pudding, rice pudding, whipped cream, and cream moulds.

Lunch, 4 P.M.—A half-pint of milk, raw meat soup with thin sliced stale bread, or koumys.

Supper.—Toast and milk; cold meats with jellies, but sparingly; half-pint of milk, or thick meat soup; sliced stale bread; custard pudding, or ice cream.

Lunch, 9 P.M.—Soup or milk, and, if thirsty at night, cream with soda water, or koumys.

If cod-liver oil is prescribed, it should be taken one hour after each meal.

The Surgical Treatment of Pulmonary Cavities due to Tuberculosis.—It is not within my

province, as a physician, to speak of the surgical treatment of phthisis pulmonalis, but I venture to remark that there is every reason to believe that drainage antiseptically of lung cavities will be successfully done in the future Surgeons in this city have been successful in the operation, and Dennison of Denver reports several cases in which drainage promoted cures.

CHICAGO, Ill.

REPORT OF A CASE OF FATAL INJURY TO THE CERVICAL REGION OF THE SPINE.

BY T. J. WHITTEN, M. D.

John G. Lipe, aged 62 years, twenty years since received an injury which was diagnosed "Fracture of the Spine." The history of this injury, as received from his family, was as follows:

He was thrown from a sled loaded with wood, which passed over him; was found completely paralyzed from the shoulders down; bowels were obstinately constipated for months,—in fact normal tone was never completely restored; priapism was a very marked symptom, almost constant for several weeks; it was not necessary to use the catheter at any time; no bed sores formed, although no especial pains were taken to prevent them.

Ever since the receipt of this injury his movements have been awkward and clumsy. If riding on horseback, and not watching the horse, when the latter moved quickly to one side he would fall off; this occurred several times without hurting him very much, and without increase of paralysis. When he sat down he could not ease himself in the natural way, but dropped into the chair with a thud.

On the afternoon of June 21st, 1889, he climbed upon a rail fence and sat down in his usual manner. The fence gave way with him and he fell backward, striking on the head and shoulders, when immediately paralysis, from the neck down, ensued. He was placed upon a sled and conveyed home, one-half mile distant, and remarked in transit that the jolting of the vehicle gave relief to pain instead of increasing it.

I saw him about six hours after the receipt of the injury. He was then lying upon his back, with an attendant holding on to either arm, pushing and pulling at them quite violently, as he imagined this process gave him some relief to the only pain he complained of—viz., pain at the top of his shoulders. The head was slightly flexed and almost immovable. There were slight nodding movements, but very little if any rotary motion. There appeared to be a depression over the fourth and fifth cervical vertebra, but on examination through the mouth, no under prominence could be detected. No crepitus could be detected. I made careful extension on the head, which immediately relieved the painful sensations at the points of the shoulders. The paralysis remained the same. The patient was quite cheerful, though informed that the prognosis was most unfavorable, and advised to fix up his worldly affairs at once, while his mental faculties were intact. After the head had been pulled there was more freedom of movement.

I left him, at my first visit, a few doses of morphia to be given in case of severe pain, but only one dose was given. I directed also that the bed clothing be kept smooth under the body, and the urine drawn once every six hours. The one dose of morphia was the only opiate given as the pain was never very great. The temperature remained normal and the mind perfectly clear until near the close of life. After the first few days there was complete loss of appetite. There was no action of the bowels; once an enema was given—without my approval. The effect was the same as injecting a like quantity into a rubber tube; but the rectum was emptied of its contents once or twice with the finger. The usual decomposition of urine did not take place—I think in consequence of especial pains to keep the catheter clean and aseptic.

On the fourth day extensive bed-sores formed over the sacrum, which were dressed with Basilicon ointment, and powdered very freely with lycopodium; there was never any attempt to form a line of demarcation between the gangrenous patches and the healthy parts. On the morning of the fifth day after the injury I found my patient in very great distress on account of the return of pain in the left shoulder. The attendant was making frequent changes in the position of the arm in the vain hope of giving relief by finding an easy position. I observed also that the patient's neck was not lying straight, and a steady pull thereon for a few minutes relieved the pain "like magic."

The abdomen, as is usual in these cases, became early enormously distended with gas. On one day there was considerable nausea, but as all the muscles concerned in emesis were completely paralyzed, there was no attempt at vomiting. After the first few days, anorexia was complete. What caused the patient most trouble was the accumulation of mucous about the throat, which he had no power to expel. The only thing that we were able to do for the relief of this most distressing condition was to make quick and forcible compression over the stomach just as the expiratory act took place—a kind of artificial diaphragm.

The man died of inanition on the twenty-fifth day after the injury. It is greatly to be regretted that no post-mortem examination could be secured. Very little medicine was

given, as there were no plain indications for the administration of drugs.

It will be observed that I have not ventured to make a diagnosis in this case. I have endeavored to give a brief but accurate description, and hope that discussion may throw light thereon:

The following questions will be of interest to both pathologist and physiologist:

What was probably the exact lesion caused by the accident twenty years before?

What the one that resulted in his death?

Why was priapism a marked symptom the first time, and entirely absent the last?

Why was the bladder left intact the first time, when the general paralysis appeared as great as in the accident that proved fatal?

Why did not sores form after the accident, as no especial means were used to prevent them.

Nokomis, Ill.

WHAT IS THE RELATIVE VALUE OF THE DIFFERENT SUTURE MATERIALS.*

BY DR. D. A. K. STEELE.†

In selecting a suture material we are guided by the light of modern surgical pathology to select a material that is surgically clean—a substance that by suitable preparation and preservation has been rendered aseptic, *i. e.*, incapable of containing within itself micro-organisms that would carry infection from without into the tissues of the body. By a rigid adherence to this rule, we are enabled to emulate H. O. Marcy, and close an aseptic wound by an aseptic suture aseptically applied. The various materials used I mention in their order of merit:

Silver wire.
Silk worm gut.
Silk, iron dyed.
Hemp { juniper. / chrome.
Catgut { carbolized. / sublimated.
Kangaroo tendon.
Moose fascia lata.
Other animal tendons.
Horse-hair, etc.

Silver wire, well polished and placed in a five per cent. solution of carbolic acid just before using, still continues to maintain its position as the best material for bone sutures, although its supremacy is disputed by the frequent use of aseptic bone pegs and steel nails in compound fractures and joint resections. It is also still used in closing lacerations of the cervix uteri, perineum, and laparotomy wounds, and a very fine wire by some surgeons for face wounds. In osseal surgery it becomes readily encysted, although sometimes it provokes a circumscribed osteomyelitis and lamellar necrosis, requiring its removal and a curetting of the granulative lined cavity in which it lies imbedded.

Silk worm gut is an improvement upon silver wire in the suturing of operative wounds, especially those of the os uteri, perineum, and abdominal walls, as it does not become discolored, is indestructible and unirritating. It should remain in an antiseptic solution for two or three hours before use is order to become soft enough to tie easily. In oral surgery I also esteem it highly as a suture material. It is much easier to thread than silk.

Silk rendered aseptic by boiling for an hour in a 5-per-cent. solution of carbolic acid, then wound on glass bobbins and kept in absolute alcohol, is the best material for general surgical work as a wound approximator. The safest way to keep it, is to only wind enough on a bobbin for a single needle-thread, and keep each ligature in a single bottle; where many goods are kept on a single spool and drawn off by the side of or through a cork from time to time, there is much danger of infection, and I have had a number of "stitch abscesses" follow the use of the ordinary commercial aseptic silk. For ligating tumor pedicles, arteries, closure of deep wounds, etc., silk is to be preferred, the iron dyed theoretically being the best as a buried suture for closing periosteum over the ends of bone, for approximations of divided muscles, or of nerves or tendons. I think fine aseptic silk is nearly if not quite equal to cat-gut, but wherever a suture or ligature is placed in movable connective tissue where there is much gliding of the parts, I think the former is not likely to become encysted or absorbed, but after some weeks or months the little knot becomes displaced and acts as a foreign body, and thus induces irritation, and sometimes an abscess, possibly from germs contained in the inner layer of its fibres that were not rendered innocuous by the boiling.

Cat-gut is open in a greater degree to this objection, and requires greater care in its preparation. Lister's or Kocher's methods are considered the best for freeing the gut from oil and septic animal matter. Reverden advises exposing the gut for four days to a constantly increasing temperature up to a maximum of 440° C., and then placing in oil of juniper for a day, afterwards keeping in alcohol; this he has used clinically for eighteen months with perfect results. Small cat-gut is found to be always aseptic, and can be safely used for suturing intestine, peritoneum, periosteum, nerve, fascia, tendon, or muscle, and is of decided advantage over silk as a ligature, as its place in the tissue is taken by a living band of connec-

* Read before the Illinois State Medical Society, May, 1890.
† Professor of Surgery and Surgical Pathology in the College of Physicians and Surgeons, Chicago, Ill.

tive tissue cells which rapidly invade its softening structure.

The animal aseptic suture is, therefore, the ideal suture, but too often we find that the large sizes of cat-gut, even when carefully prepared, contain within their twisted and obliquely-arranged fibres in the center of the gut, materialized ares that are in the process of softening and subsequently expose the wound to the danger of infection.

Animal tendons, such as the kangaroo tail, whale tendon, fascia lata of the moose, or any similar tendons in which the fibrils run longitudinally, are capable of being readily separated, and of sufficient length for ordinary surgical use would seem to be better than cat-gut, which, up to this time, has dominated the field of the animal suture.

CHICAGO, Ill.

ATROPHY OF THE PECTORAL MUSCLES IN THRESHING MACHINE FEEDERS.

BY J. E. ENGSTAD, M. D.

In the wheat regions of North Dakota, one of the principle tasks performed by farmers is threshing. The average work by a gang of twelve to fourteen men with a machine, is 2,000 bushels of wheat per day. Feeding this enormous machine is a labor that requires skill, judgment and more than ordinary strength and endurance. He who acts as feeder stands upon a raised platform in front of the machine, and reaches alternately from right to left for a bundle of wheat. The grain is heavy, and the distance he is compelled to extend the arms is about six feet—three feet either way from his body. The bundle is pushed toward him sideways, from the "sideboard," and after he brings it squarely in his front he is obliged to give it a peculiar twist, calculated to spread evenly—to meet the demand of a 46-48 inch cylinder—to prevent unequal pressure.

The strongest men work continuously for about two hours at feeding, when they are relieved by turns. It may readily be imagined that the physical strain induced is enormous, since few feeders are able to continue this avocation longer than three or four seasons.

The chief muscles involved are, the pectorales major, and the minor latissimi dorsi, though to a certain extent all the muscles of the shoulders and forearms are affected. But the pectoral muscles are the chief sufferers. After one or two seasons of this work they develop enormously, and their power and hardness would almost amaze a professional boxer or athlete; the heavy pulling from the side of from thirty to fifty pounds, alternately every two or three seconds, causes this development.

Finally, the climax is reached and then atrophy begins. Human endurance is capable of a great deal, but when the utmost limit has been reached, it must necessarily react, and usually with interest, and here atrophy is the inevitable result, from a myositis to myostenia.

The muscles first became sore and tender; and later flabby; often I have had cases under observation where only a remnant consisting of but a few muscular strands was left. The whole system is also affected, and the patients become despondent, weak and discouraged. Labor is often an utter impossibility, as the power in some of the chief muscles is partially or wholly lost. Also they suffer rheumatic pains, which are often severe. Again the unfortunates frequently imagine they are victims of phthisis pulmonalis or some other incurable disease.

The pathology is probably the same as in any muscular over-exertion. First an increase in blood supply and a corresponding increase in muscular fibre. The limit reached, the reaction is simply an inevitable consequence. I have had some ten cases under observation, where the history and results were complete. Also, I have had a number more who suffered from some form of muscular derangement, as neurostinia or myostinia as the result of some other form of over-exertion, or mal-nutrition. But cases not complicated are comparatively rare. The cases are, as a rule, in poor circumstances, which will often prevent them from a continued course of treatment.

Hypodermatic injections of strychnia have proved most satisfactory of all forms of treatment in my hands, while Galvanism and massage often proved useful to arrest the progressive atrophy. Internal treatment is also added, involving the customary routine of tonics; abstinence from hard labor, and good, nourishing, easily assimilable food are, of course, necessary.

Feeder's arm may be placed in the same list as pitcher's arm.

GRAND FORK, N. D.

ANTISEPTIC MIDWIFERY—CREOLIN IN OBSTETRICS—DIRECTIONS TO MIDWIVES.

BY E. P. HURD, M. D.

At the recent debate on antiseptics in midwifery in the Therapeutic Society of France, Dr. Constantine Paul spoke highly of the use of creolin in obstetrics, which he regarded as preferable to corrosive sublimate, not being toxic like the latter. This new antiseptic is coming into general use in England and in Germany, as one of the best means for the prevention and arrest of puerperal infection.

Creolin is tar deprived of certain phenic products, its active properties being due to the

*cresylol** which it contains. It is a clear, thick liquid, of brownish color, vinous, aromatic savor, piquant taste, burning with the odor of tar. It is neutral in its reaction, and soluble in all proportions in alcohol, chloroform, and acetic acid; also is a very complex product, like others of the coal tar preparations, embodying in its composition naphthalin, anilin, a resin fatty soap, etc. Creolin has been the subject of numerous experimental researches in Germany and in Austria, and has been found to be an antiseptic of the first order—more so even than phenic acid, according to Eisenberg and Esmarch. It is neither caustic nor toxic, and no bad effects have as yet occurred from its free external use; Spaéth affirms he has taken internally as much as two drachms daily without any harm.

Dr. Constantin Paul, at the meeting above referred to, stated his ideas as to the antiseptic precautions which a midwife should take. Her knapsack should contain a suitable syringe with two glass canulæ for vaginal injections, a hand and nail brush, a cake of carbolized soap, a roll of salicylic wadding, a fever thermometer and one for baths, a small jar of vaselin (4 per 100), an apron and a towel; four tight stoppered bottles,—one containing tincture of canella, the second aromatic vinegar, the third, Hoffman's anodyne, and the fourth, six ounces of creolin. Whenever the midwife is called upon to examine a woman, she will put on her apron—which should be white and kept scrupulously clean—and roll up the sleeves so that her arms shall be bare to the elbows. The nails must be cut short, should be washed and scraped, and the fore arms and hands cleansed with soap, water and a brush; then she will wash the genitals of the patient with soap and water and wipe with an antiseptic cloth,—not a sponge, the use of which is interdicted. Then she will disinfect her hands in a 1 per 100 solution of creolin, will anoint the index finger with vaselin and make the examination, after which the disinfection will be gone over again. If she has occasion to use a catheter, scissors, or canula, these instruments should first be kept for a few minutes in boiling water before being employed.

When attending a woman in labor, the midwife should content herself with examining the woman twice; first at the beginning of labor, second after the rupture of the membranes. Before each examination, she should take the precautions above-indicated. She will make only one intra-vaginal injection before delivery, with a one-per-cent. solution of creolin.

After delivery, she will carefully wash the genitals of the patient with luke-warm water which has been boiled, and see to it that the bed-clothes and linen of the patient are changed as soon as her condition will permit; she will take the temperature of the patient several times a day, and promptly notify the attending physician whenever the bodily heat attains or exceeds 101° F. and remains at that point any length of time.

The midwife is forbidden to lay out corpses; she is to endeavor not to touch parts of the body or objects which have been contaminated by the lochia, wounds or purulent abscesses, or even a still-born child. She will avoid, likewise, contact with all persons affected with contagious diseases; and by contagious diseases, is understood, not only puerperal fever, metritis, peritonitis, but also scarlatina, croup, diphtheria, small-pox, dysentery, typhus, erysipelas, and venereal diseases. When she is obliged to enter the room of a person affected, or only suspected of being affected, with one of these diseases, she will not thereafter visit a lying-in-woman, much less make any examination, till she has made a complete change of clothing, and has thoroughly disinfected herself. If there shall happen to be a patient sick with some contagious disease in another part of the house in which she lives, the midwife will consider herself for the time being disqualified for duty.

These rules apparently would be productive of the utmost good if carefully carried out by obstetric surgeons; certainly they would lessen the present rate of mortality of the lying-in room, which, though low, is by no means all that can be desired.

* Dujardin-Beaumetz, *Dictionnaire de Thérapeutique*, art. "Creolin."

BRIGHT'S DISEASE A GLOMERULO-NEPHRITIS—THE UNITY OF BRIGHT'S DISEASE.

The idea many years ago prevalent, though foreign to the magisterial descriptions of Dr. Bright and his immediate successors, that under the generic title of "Bright's Disease," is comprehended two distinct forms of nephritis (the parenchymatous and interstitial), which are two separate diseases from the standpoint of ætiology, course, morbid processes, etc., is giving way to a more just conception of the essential unity of the malady. The best authorities now regard, whether parenchymatous or interstitial, as essentially and primarily a glomerulo-nephritis, beginning in the Malpighian bodies and tubules, extending to the interstitial connective tissue, which in advanced cases is always more or less involved. In some cases the connective tissue lesions are the most conspicuous, but the glomerules are always concomitantly and antecedently affected. The two diseases in fact, are, as much one as scarlatinous angina and scarlatinous dermatitis; in some cases, as is well known, we may have the former without the skin eruption.

The Medical Age.

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B. W. PALMER, A. M., M. D., Editor.

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Editorial.

THE AMERICAN MEDICAL ASSOCIATION.

The forty-first annual session of this National organization was held at Nashville, Tenn., during May 20, 21, 22 and 23rd, about 800 members and delegates being present. The attendance was notable in the respect that a large number, —a majority perhaps—were from the Middle, Southern, and South-Western States. In fact, the Northern and Eastern sections of the country were but poorly represented, doubtless owing to the known limited hotel facilities of the "Rocky City," and which gave rise to the suggestion that henceforth no city be chosen that cannot afford comfortable accommodations for at least 1200 guests. Nevertheless, the meeting was a success from progressive, professional and scientific standpoints, and in its social features, perhaps, unexcelled in the history of the Association.

All Nashville, seemingly, welcomed the visiting physicians, and not the least pleasant of the many features was the meeting of those who had been entertainers and entertained under like conditions one-third of a century gone. The latter were few to be sure, for the young men of 1857, who danced at the grand ball given in the State Capitol, are those of 1890 who show the gray hairs and records of an active, arduous life. The welcome was unmistakably genuine, and partook of the characteristic hospitality of the Southern people—A hospitality unstinted and verging upon prodigality. Again, the ladies of Nashville, collectively and individually, looked after the comfort and enjoyment of the wives and families of members and delegates. Likewise numerous receptions were held—at the State Capitol, Ward's School, and at the residences respectively of Drs. W. T. Briggs, N. D. Richardson, J. B. Stevens, Prof. Hancock, Judge James Whitworth, and Messrs. H. B. Buckner, and B. F. Wilson. Besides, a concert was given at the Theatre Vendomé by the teachers and pupils of Price's College for Young Ladies, and excursions were had to Hermitage, to Chattanooga, and upon the river.

At the opening session the Association was welcomed on the part of the physicians of Tennessee and Nashville by Dr. W. T. Briggs in a pleasant address, and also on the part of the State and City by State Secretary Thomas D. Craigford, and Mayor C. P. Mc Carver. Next followed the President's address in which Dr. Edwin M. Moore, of Rochester, N. Y., discussed "The Relations of Government to Hygiene and Public Health." Dr. Samuel Logan, of New Orleans, gave a masterly *resumé* of "Surgery," and its advances during the year. Equally interesting and valuable were the addresses of Drs. N. S. Davis, of Chicago and A. L. Carroll, of New York, on "Practice of Medicine" and "State Medicine" respectively.

The elections for the ensuing year resulted in Dr. W. T. Briggs, of Nashville, being chosen President; and Drs. C. A. Lindsley, of Connecticut, R. C. Moore, of Nebraska, H. C. Wyman, of Michigan, and L. P. Gibson, of Arkansas, Vice-Presidents. Dr. W. B. Atkinson, of Philadelphia, retains the office of Permanent Secretary, as does Dr. R. J. Dunglison that of Treasurer.

The new Trustees of the Association's *Journal* are: Drs. Edwin M. Moore, of New York, J. B. Hamilton, of Washington, and D. E. Nelson, of Tennessee. Also were chosen: Dr. E. L. Shurly, of Michigan, to deliver the next address on "General Medicine;" Dr. J. M. Matthews, of Kentucky, that on "Surgery;" and Dr. W. L. Schenck that on "State Medicine." The next place of meeting will be at Washington, D. C.

Heretofore the Association has been pestered in many ways by those who have sought to make capital out of the organization, and to use it for advertising purposes. This, and certain other needed reforms, led to the adoption of the following resolutions during the closing session:

Resolved, that at the next meeting of this Medical Association the Chairman of the Committee of Arrangements is hereby instructed to have tickets prepared for admission to the first two meetings, which shall be given the members upon the payment of annual dues, the same to be shown at the door to a person appointed for the purpose.

Resolved, that the Committee on Arrangements prohibit at the next meeting the placing of all papers and periodicals in the seats for delegates or others, whether relating to the Association or not.

Whereas, certain parties without authority, are presuming to make use of this Association for the furtherance of advertising interests; therefore:

Resolved, that at all future meetings of the Association such publications be excluded from the place of meeting either of the General Sessions or its Sections.

Resolved, that in the future each Chairman of the Committee of Arrangements be directed to procure a copyright of the official programme to the end that the financial rights of the

Association may be protected by due process of law.

Resolved, that the following by-law be added to the By-Laws of the Association: That the State and geographical district Societies in affiliation at this time with this Association, having a membership of 100 or more, shall be recognized as *Branches* of the American Medical Association.

Resolved, that all members of said Societies shall enjoy all the rights and privileges now accorded to delegates.

Resolved, that the said organizations be overtured through our Permanent Secretary to take such action as will enable them to concur in these resolutions.

Resolved, that the words Materia Medica be taken from the title of Section One and that a new Section be formed to be entitled the Section of Materia Medica and Pharmacy, to have the same privileges as other Sections of this Association.

The customary complimentary resolutions were also passed, after which the Association adjourned.

Of the Section work we have not time or space to speak or comment upon. It may be said, however, that it was superior in most respects to the work of the past. There was a decided disinclination to receive useless essays such as always appear before such bodies, and to limit discussions to the practical and valuable. Some of the more interesting papers we hope to lay before the readers of the AGE at an early date.

ASEPSIS IN SURGERY.

On another page will be found a valuable paper by an eminent foreign surgeon on "Asepsis."

It may seem to some that the author is an extremist, but we think the views there stated may be considered as fairly representing the present advanced status of surgery.

Those who are most inclined to deprecate the "fussiness" of modern antiseptic surgery are generally those who operate under the most favorable conditions of environment, and have never seen hospital gangrene or even purulent infection, or else those whose limited practice seldom or never includes a capital operation. Certainly, if any progress has been made the past twenty-five years in surgery, it has been mainly in consequence of the prevalence of the principles of Listerism. What would the surgeons of a former age have said had they been told that their successors of the latter part of the nineteenth century would be able, by the simple expedient of cleanliness and asepsis, to open the abdominal cavity with impunity and perform operations unheard of by them—cholecystotomy or cholecystectomy, nephrotomy or nephrectomy, ovariotomy or hysterectomy, splenectomy and resection of the pylorus, the reduction of a volvulus or the amputation of an ulcerating appendix vermiformis?

The surgeon of bygone times had no knowledge of the importance of the simplest principles of aseptic surgery. His instruments may have been washed and scoured till they were bright and clean, but they were never disinfected. No especial pains were taken to insure personal cleanliness, especially of the hands. He was as likely as not to go from a case of erysipelas, scarlet fever, puerperal fever, etc., to an amputation, or a case of confinement. If septicæmia resulted and the patient died, priest and surgeon submissively acquiesced in the mysterious dispensation of Divine Providence.

It is undoubtedly true that the surgeons of former days were often very successful, losing very few of their patients; this was especially apt to be the case when the surgeon lived in the country or operated in a well-ventilated house. But when the theatre of his labors was the crowded tenement house, or even the slums of the city—places where the environment was hygienically bad—the mortality was sometimes frightful. Army surgery was especially unlucky.

The very fact that there has been such a falling off in the mortality where antiseptic regulations have been rigidly enforced, sufficiently proves the importance of asepsis and antisepsis in surgical practice. Such men as Dr. Reynier affirm that they now know virtually nothing of septic and purulent infection, of surgical erysipelas, of hospital gangrene. This, of itself, justifies all the pains which they habitually take in rendering their operations as aseptic as possible.

When the surgeon of the present day complains of the irksomeness of modern surgery—of all this care of the hands, fingers, and finger nails; of all the bother with sublimate solutions, iodoform powder, and phenicated gauze; of the scrupulous pains exacted of him in the disinfection of his assistants and the patient, and in rendering the environment aseptic—let him remember that the responsibility of a human life rests upon him, and that the minutest details are worthy of attention if they tend to save life.

CAN THE PHYSICIAN FIX HIS OWN FEE?

The Boston Medical and Surgical Journal reports that "there is no fixed tariff for a physician's fees, and his word must be taken for the correctness of his account unless there be direct proof against it." This was decided by Mr. Justice Jetté, in the Superior Court of Montreal lately, in rendering judgment in case of Dr. Azarie Brodeur, against Mr. Alexandre Bourgeau for $200, amount of fee for setting a broken collar-bone. Mr. Bourgeau had offered to pay $100, but this was refused, and suit was entered, and judgment obtained by Brodeur.

Book Notices.

How to Preserve Health. By Louis Barkan, M. D. Paper, 12 mo., pp. 341. Published by the author through the American News Company, N. Y.

The author of this work says he has labored with the object of giving to the public an available hand-book of hygiene and sick-room assistance founded upon the most recent development in medical knowledge. Unfortunately there are already many volumes in the market with similar claims, though it may be said few represent as fairly or honestly the purposes announced.

There can be little fault found with the volume as a book; the information is in the main excellent. But such books are themselves objectionable, since they afford a certain class of meddlesome women and men an excuse for interfering with the legitimate prerogatives of the physician, to the detriment of the latter and his patients. It is sheer folly to imagine that people ignorant of the fundamental laws of life, to whom physiology and pathology are sealed volumes, will be able, or will even try, to reason out truths that are at once patent to medical men, and on that account seem to them easy of demonstration. The laity care little for cold facts. There are but two classes who read these works: Those who are seeking something interesting or novel, and who never put the precepts in practice, and those who feel they are "called," and possess a "mission," who are invariably people of but a single idea, with no powers of reasoning or comparison, and who run into the ground and thereby render obnoxious and harmful, everything which they take hold of.

Dr. Barkan's work, as before remarked, is free from most of the objections that pertain to works of this class, but nevertheless, there is no niche, either in literature or science, to which it is fitted.

A Treatise on Orthopædic Surgery. By Edward H. Bradford, M. D., and Robert W. Lovett, M. D. Cloth, 8 vo., pp. 783. Illustrated. Published by William Wood & Co., N. Y.

This is a most admirable treatise. Heretofore writers on orthopædic surgery have confined themselves to a consideration of the treatment of existing deformities, such as club-foot, lateral cervature, and bow-legs, the only conspicuous exception being the work of Dr. Lewis A. Sayre. This volume, however, goes even farther than Dr. Sayre's, and diseases are considered at length that, while not strictly orthopædic, are most apt to present themselves to surgeons professing this specialty. Thus, besides diseases of the joints and Pott's diseases, are added brief description of some disabling and deforming nervous affections, which are discussed in their practical surgical aspects. The illustrations are profuse—nearly 800 in all—and for the most part are clear and practical in teachings, adding in no small degree to the value of the volume.

Notes and News.

Dr. Emin Pasha.—Emin Pasha was born at Oppelln, in the Prussian province of Silesia, in 1840. His real name is Eduard Schnitzer. He began to study medicine in 1858 at the Breslau University, and completed his medical education in Berlin, where he graduated in 1864. Being animated by a strong desire to travel, he left Berlin immediately after graduating, and went to Turkey, and joined the staff of Hakki Pasha, whom he accompanied on his official journeys through Armenia, Syria, and Arabia. He adopted the name of Emin, which means "the faithful one," so that his Frankish name should not interfere with his identification with the interests of the people he wished to serve.

In 1875, he returned home to visit his family, but suddenly the desire to travel seized him again, and, taking the nearest route to Egypt, he entered the Egyptian service as Dr. Emin Effendi. He was ordered to join the Governor-General of the Soudan at Khartoum, and from there he was sent to act as chief medical officer in the Equatorial Province, of which Gordon Pasha was then Governor. In 1878, after Gordon had been made Governor-General of the whole Soudan, he appointed Emin, of whom he had a very high opinion, to his former post as Governor of the Equatorial Province.

Between Gordon's term of government and Emin's appointment, there had been a lapse of time, during which disorder had grown apace. Emin's task was full of difficulty, but, with surprising patience and determination, he became master of the situation, though always alone, unsupported by any other European. He restored order, banished the slave dealers from the Province, and released the slaves, and managed the resources of the country so well that he turned a deficit of £32,000 a year into a revenue of £12,000 for the Egyptian Government.

Medical work was, however, not forgotten, and at Lado, where was the chief hospital of the Province, he might be seen early every morning going round its wards, and prescribing for the patients.

Scientific researches into the botany, zoology, and ornithology of the Province were prosecuted unceasingly, and collections made, though he never allowed his pleasure in scientific observation to draw him away from his official duties. He held in high estimation

the mission of a doctor. "A sick man," he writes, "is no subject, but a feeling and suffering being, whose sensibility is greatly heightened. Be to your patient in the first place a friend, then a doctor. Our mission is a high and holy one, and the murmured thanks of a poor man are of far higher value than a few guineas, and the knowledge that one has saved a sick child for its mother is a far more beautiful reward than can ever follow a brilliant but risky operation."

His friends speak of Emin with reverential affection as a man of surprising devotion and unselfishness, and, though of encyclopædic knowledge in zoology, botany, and languages, of extreme modesty and diffidence.—*British Medical Journal.*

To My Doctor from His Patients.*—

ON HIS BIRTHDAY.

AIR—"Ainsi Jadis un grande prophete."

Here's to his health, in many a glass,
To the doctor whom so much we owe;
I fear he will steal from the feast, alas!
To visit some client full of woe.
His art condemns him to such care,
The sick for him each moment send;
Ah! feverish patients, be but fair,
And let us feast, for once, our friend.

Yes, for once, shall his clients wait;
Let him in the family circle rest.
Yet twenty fools have come to state
That he must answer their behest;
Lovers of Venus, full of their ills,
Bid him call their pains to attend.
Pray go, gentlemen, take your pills,
And let us feast, for once, our friend.

How! cannot babies come to this earth
Without sending him from home?
Needs he be called in at every birth,
Shall every husband say to him "come?"
Aye! to the newly wed's childbed moan
Only a deaf ear, dear doctor, lend;
Let the woman her labor postpone,
And let us feast, for once, our friend.

Long and happy may his life be,
Bright his autumn, his winter not near;
Long may he live to care for me,
Ever may plenty his kind heart cheer;
May he give us our last embrace—
To die without him may Heaven defend;
May our last glance be at his face,
And let us feast, for once, our friend.

Prince Bismarck's Physician.—It is said that Dr. Schwenninger, the somewhat quackish physician of Prince Bismarck, owed his selection to a slight display of independence. At his first visit Dr. Schwenninger found his patient in his gloomiest and most hopeless mood. The physician began to catechize the Chancellor about his past life. "That is no matter of yours," said Bismarck, "I want you to deal with my present condition." "If that is the case," said the bold Bavarian, "you had better send for a cattle doctor, he would not be in the habit of putting questions to his patients." He took up his hat and made for the door, but Bismarck, suddenly laughing in the midst of his groaning, laid hold of the independent doctor and said: "I believe after all, you are my man."—*Boston Med. and Surg. Journal.*

Fever Thermometers are not generally supposed to be difficult instruments to handle, but that there are some physicians who are a little mixed about the ends of the thermometer, if not of the patient, is shown by the following letter accompanying an order for a fever thermometer to a dealer in surgical instruments:

DEAR SIR:

As there is some dispute among doctors as to the use of clinical thermometers will you please tell me: Do you place the bulb or the end that contains the mercury in the mouth or the other end. If so is there any kind made where you place the other end in the mouth. If you will answer me you will oblige.

Cumberland Gap, Tennessee, as a Rival for the Riviera, Monaco, Trouville, Bath, and Brighton.—It is currently reported that eminent foreign physicians, men like Charcot in Paris, Nussbaum in Munich, Morrell Mackenzie in London, and their brethren of the same rank in the leading cities of America, have formed an alliance, and agreed that there is one particular spot on the earth's surface to which hereafter they propose, as far as possible, to send patients who need travel, change of scene, and, above all, luxury. This international sanitarium and resort for millionaire invalids is not to be in the Riviera, at Monaco, Trouville, Bath, or Brighton, but down near Cumberland Gap, in Tennessee, where this medical trust will erect a palace for invalids.

Too Weak.—The Nashville American says the gentlemen in attendance upon the American Medical Association refused, from principle, to accept a wine banquet, but it is remarked how some of them went out and tasted Bourbon and Lincoln County on their own hook. That's said to be why they cheered Kentucky at the general meeting one morning. The doctors know when a thing is too weak for their nerves.

Operations Upon the Prostate.—Dr. William T. Belfield, 612 Opera House Building, Chicago, Ill., U. S. A., solicits information concerning unpublished operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

Dr. F. N. Otis has been appointed Emeritus Professor of Genito-Urinary and Venereal Diseases at the College of Physicians and Surgeons, New York. Dr. Robert W. Taylor has been appointed Lecturer on Venereal Diseases at the same College.

* From Beranger, as reproduced in *Lancet and Clinic.*

Sanitary Convention at Battle Creek, Mich., under the auspices of the State Board of Health, Wednesday and Thursday, June 25th and 26th, 1890. For further information address George W. Green, M. D., Battle Creek, Mich.

Therapeutic Brevities.

A New Remedy for Hay Fever.—Regularly as the summer comes round, with its flowers and sweet-scented grasses, and the fatal *amari aliquid* which rises from these well-springs of odorous delight to vex the nostrils of the victims of hay fever, there is a corresponding efflorescence in the medical journals of more or less dainty therapeutical devices to rob the pollen of its sting. Many means of lessening the abnormal irritability of the conjunctiva and respiratory mucous membrane have been tried, and for the most part have been found wanting, and sufferers to whom experience has brought "disillusion" are fain to "throw physic to the dogs" and "take refuge on barren mountain tops till autumn brings surcease of sorrow." It is not everyone, however, as the old proverb tells us, that can "go to Corinth," and, moreover, those subject to hay fever are as eager as the Athenians of old to hear some new thing that may perchance mitigate, if not cure, their complaint. Some of our readers, therefore, may be glad to have their attention called to the method of treatment which seems to have at least the merit of novelty. Dr. de Lamallerée, who looks upon the disease as a "neurosis of nasal origin" the exciting cause of which is "erection" of the mucous membrane set up by some irritant substance, says he has succeeded in subduing the morbid sensitiveness of the parts by means of douches of carbonic acid gas applied to the interior of the nose, at least three times a day for a quarter of an hour at a time. In severe cases this local medication is insufficient, and the gas must be given by the rectum, in six litre doses, morning and evening. Dr. de Lamallerée states that he has "passed into the intestine in less than 10 minutes from 10 to 14 litres of carbonic acid gas without the patient feeling the slightest colic or distension." No other treatment whatever is used. It must be confessed that though Dr. de Lamallerée speaks of this remarkable plan with all the enthusiasm of a discoverer, its results, even on his own showing, do not seem to be particular brilliant, and it is just possible that many persons might think the remedy worse than the disease.—*British Med. Jour.*

Treatment of Ringworm by Chrysarobin.—Dr. Unna has published, in the Monats. f. prakt. Derm., 1889, No. 12, a method of treatment of ringworm by chrysarobin which he believes to have special advantages. A summary of the treatment is given in the Annales de Dermatologie et de Syphiligraphie, February, 1890, p. 148, in a paper in which the various methods of treatment of ringworm now in vogue in France and elsewhere are detailed. Dr. Unna's method is as follows: The hair is cut short and a protective zone is formed by applying zinc gelatin to an imaginary ring which extends to the forehead round the temples and nape of the neck. The object of this protective ring is to prevent the extension of the chrysarobin ointment beyond the scalp. The strength used is of 5 to 10 per cent., with or without 2 per cent. salicylic acid, and 5 per cent. ichthyol. The head is then covered with some impermeable tissue such as oiled silk, gutta percha, etc. The borders of this tissue are glued to the skin by gelatin. Over this is fixed a tarleton bandage, and over the whole is fitted a flannel cap or wax cloth. Once daily the cap is removed, the impermeable covering is greased on one side, the head is wiped and a new application is made, after which the covering is again sealed down. On the fourth day the chrysarobin is wiped off, and replaced by an ointment of 5 per cent. ichthyol, which is applied once daily for three more days. At the end of the week everything is removed, the zinc gelatin bands as well, and the head is cleaned with oil and soap. A second cycle of treatment is then begun, lasting a week, and so on until a cure is obtained, which Dr. Unna states occurs in a number of cases in four weeks. The details of the method are evidently conceived with a view to prevent the effects of the chrysarobin spreading, as it is apt to do. Unfortunately, Dr. Unna does not yet appear to have treated a sufficient number of cases to justify his belief either in the rapidity of a cure, or in the immunity from the disagreeable results which chrysarobin is apt to produce, but doubtless his well-deserved reputation as a therapeutist, and the the universal desire to discover some more satisfactory means of curing ringworm than at present exists, will lead to his method being freely tried.

Quebracho in Dyspnœa—The recent epidemic of cough has afforded a number of cases in which quebracho has been proven an excellent resource. It is not a remedy for asthma in its pure form, but in those cases in which there is want of compensation between the cardiac and pulmonary circulation it affords good satisfaction.

The quality renders the agent valuable in both pulmonary and cardiac diseases, and places it in both lists of remedies as an available agent, where a stimulant is required to the excito-motor nerve filaments distributed to these parts.

Advanced stages of bronchitis in debilitated patients, often present us with the quebracho picture. There is labored sighing respiration or a sense of suffocation, and we find, upon examination, that this is associated with a feeble systolic impulse, as evidenced by the soft compressible pulse or by cardiac auscultation.

As an asthmatic remedy where a stimulant to the pneumogastric is required, it often serves a good purpose.

We have found that repetition is an effective teacher. A single mention of a given lesson produces but slight impression, but repeated notice of it so thoroughly impresses it that in time it becomes a common-place matter to apply it in every appropriate place. Quebracho has been mentioned many times heretofore in the Journal, but has not received any notice in this season of frequent need for it—therefore these remarks.

The minimum effective dose of this agent is

not known to the writer. It does good work in fifteen drop doses of the fluid extract, but is exceedingly nauseous in such quantities, even when well diluted.—"*Calif. Med. Jour.*," April, 1890.

A New Remedy for Sea-Sickness.—The successful treatment of sea-sickness which surgeons afloat have so much to do with, and which generally they are unable effectively to alleviate, must prove my excuse for bringing before the profession the curative effect of kola (*Sterculia acuminata*) in this affection. In the few cases which I have lately had to deal with, I have found the internal administration of the seed of the kola a most successful remedy. Half to one drachm of the seed chewed slowly, was followed in about forty minutes by complete cessation of the various symptoms of *mal de mer;* the depression, vomiting, and giddiness disappeared; the heart's action regulated and strengthened, and a confidence in heavy weather that my cases never before experienced during the many years they have served in the Royal Navy, and had tried the usual remedies prescribed by their advisors. At present, no means of preventing sea-sickness in those susceptible of it is known; and I venture to believe that in kola, or its alkaloid, we have one, and that a larger trial of this drug will tend to support my opinion. From its well-known sustaining and invigorating properties during fatigue, for which it is daily used by the natives on the West Coast of Africa and in the Soudan, its action in sea-sickness seems to be the giving of tone to the nervous system, —proving a stimulant—acting generally and locally. As a good deal of attention is now directed to this drug, it would be advantageous if for future trials pharmaceutical chemists would give us a neater, more portable, and efficient preparation than the kola seed, which seems reliable only when freshly prepared.—Chas. W. Hamilton, Surg. R. N., in *British Medical Journal.*

Naregamia Alata.—This new expectorant, which, in the hands of Dr. Stefan Schoengut, has yielded results sufficiently definite to warrant further trial, is used in the form of a tincture, obtained by extracting the outer layer of the skin of the plant with alcohol. The plant is a native of Goa; it is a small shrub, with somewhat pendant branches and triple pointed leaves; the flowers are white and elongated, and about one inch in length. The active principles are in great quantity in the cortex of the branches; this, rubbed up, yields a light brown powder of pungent aromatic odor and nauseous taste. There are present in this powder an alkaloid, oil, sugar, resin, and other bodies. The alkaloid (*naregamine*) is the active principle; it is obtained as an amorphous powder from the ethereal extract of the crude drug, but forms crystalline salts with sulphuric, nitric, and hydrochloric acids. There is no tannic acid in the plant. In India the plant is used as a household remedy in bilious troubles. Dr. Bidie, of Madras, has tried the drug in dysentery and in respiratory affections. It is suggested that naregamine in some respects resembles emetine, and that the freer secretion results from a direct action upon the glands of the bronchial tubes. The alimentary tract is unaffected, though in one case there was some vomiting. The urine is unchanged. The unpleasant odor of the tincture is covered with aqua laurocerasi. The dose was 1 to 3 grains (about 15 to 45 minims) in the day.—*British Med. Journal.*

Hydrastinine in Menorrhagia.—Hydrastinine is obtained by oxydizing hydrastine. It may be given subcutaneously without pain, in doses of one grain of a five per cent. solution. Shortly after its administration there are light uterine pains. In ordinary cases of menorrhagia it acts well. In cases of pyo-salpinx it has acted favorably. The usual formula is as follows:

℞ Hydrastinine (P., D. & Co.'s), gr. i.
Aquæ dest., ʒ ii.

M. Sig. Six minims once or twice daily.

In hæmorrhage due to endometritis or myomata, the percentage of favorable results has been large. No evidence of the effect of hydrastinine in labor is furnished, but it is probable that it will be favorable, because it contracts the vessels and uterine pains result. The best time for its use is six to eight days before menstruation, which was rendered profuse by textural changes in the uterus.—*Therap. Monatshefte.*

Cholera Infantum and Common Cholera.—Lesage and Winter claim to have found a new microbe peculiar to cholera infantum. This microbe exists in the intestines of children, and has not been found in the other viscera. With it the disease in question has been reproduced in animals.

From cultures of this microbe these experimentors think they have extracted the *cholera poison.* This same poison exists in the cultures of Koch's bacillus. It is a resino-fatty substance, soluble in alkalies and ether; it is precipitated from culture broths by sulphuric acid.

This substance is toxic in the dose of 4 to 6 milligrammes, producing collapse, coldness, diarrhœa, and all the symptoms and lesions of cholera.

Lesage and Winter regard the microbes of Asiatic cholera and cholera infantum as different; but these microbes do harm by producing the same toxine.

Treatment of Intermittent Fever.—According to Jaccoud, the quinine should be given six hours before the commencement of the paroxysm. The real onset is marked not by the chill, nor by the elevation of the temperature which comes on gradually and begins sometimes before the chill, but by an increase in the proportion of urea in the urine, which manifests itself two hours before the quotidian paroxysm, eight hours before the tertian, twelve to eighteen hours before the quartern.

It is not then six hours before the chill that the quinine should be given, but eight hours in the quotidian form, twelve to fourteen hours in the tertian, eighteen to thirty-six hours in the quartern. Moreover, as the quinine is eliminated very rapidly, it will not do to divide the dose into several small doses, but the whole should be given in one dose, say fifteen grains in the space of three-quarters of an hour.

The Sunflower as a Febrifuge.—The *Helianthus annuus* (sunflower) is an annual plant familiar to this country. We have heard a tincture of the seeds recommended in asthma, and we know that it is used for this purpose by certain eclectics.

Dr. Maminoff, of St. Petersburg, has employed with success as a febrifuge a tincture made of the fresh flowers—one part to five of alcohol. It proved of especial utility in fever and ague, and in the case of children from one to seven years of age. Certain of these cases were very grave, and had failed to yield to quinie, arsenic, etc. The dose varied from 10 to 25 drops three times a day. The taste is unobjectionable.

Further trials seem to be demanded.

For Vomiting of Pregnancy.—Dr. Edwin Stewart, of Mendon, Mich., finds the following formula of value:

℞ Cocaine, grs. xv.
Water, ʒ iss.

Direct the woman to saturate a ball of cotton and place it in contact with the mouth of the womb. Repeat as often as necessary.

My last two cases were thus promptly relieved. The last, a week ago, had been unable for weeks to eat or drink without vomiting. She made the application at bedtime, and next morning ate and retained her breakfast.

Anidalin, a Substitute for Iodoform.—This new substance, which has been brought forward by Messinger and Nortmann as a substitute for iodoform, is probably a combination of two molecules of thymol with three atoms of iodine—in other words, a tri-iodide of di-thymol, whereas aristol is a di-iodide of di-thymol. It is a reddish brown powder, which may be kept for several months, at least with proper care. It is decomposed by the action of light and moisture, giving off iodine and turning yellow. It is insoluble in water, slightly soluble in alcohol, readily so in chloroform and ether.—*Journal de Médecine de Paris.*

Salicylate of Soda in Pruritus.—Wertheimer (Schmidt's Jarbuch) claims success in the treatment of general pruritus by moderate doses of sodium salicylate. He gives three times a day, three fluidounces of a three per cent. solution. In three cases which have lately come under his observation, the salicylate caused the prompt disappearance of the intolerable itching.

Pruritus senilis is one of the most distressing and intractable of cutaneous diseases, and anything which promises to be a remedy in this affection will be welcomed by physicians.

Menthol in the Vomiting of Pregnancy.—L. Weiss (Therapeutische Monatshefte) says the following has proved very efficacious in his hands:

℞ Menthol, ʒ j.
Alcohol, ʒ iiss.
Simple syrup, q. s. ad., ʒ viij.

Mix. Dose, a teaspoonful every hour until relieved.—*National Druggist*, May 1st, 1890.

Viburnum Prunifolium in Abortion.—This remedy has been lately again brought under notice by Wilson of Liverpool. He has used it with the most gratifying results, especially in cases where abortion was habitual. The author uses it in doses of 2 grains four times daily, in pill or powders. Opium was only added when the contractions of the uterus were very painful.—*Kansas City Med. Record*, May, 1890.

Hypodermic Injections of Chlorodyne are given by an Italian physician in certain uncontrollable kinds of diarrhœa. The dose is 15 minims, and is said to be followed by rapid diminution of the number of stools.*—*Chemist and Druggist*, May 24th, 1890.

Medical Progress.

Rheumatism and Gout.—The relationship of rheumatism and gout in respect of the share in their respective production to be ascribed to the presence of uric acid in the blood or tissues, is a question upon which much has been said and written without raising the question out of the sphere of pathological theorization. Still, every fresh contribution to our knowledge on this interesting and important subject is welcome, especially when such additions comprise actual observations—experimental, physiological, or clinical. One way of studying the morbid phenomena which underlie these and similar conditions is, to study the action of the drugs which afford relief, with the object of endeavoring to elucidate the mechanism by which the relief is obtained. It has been suggested that gout and rheumatism are both forms of the uric acid malady, with the difference that while the former is a chronic disease associated with the deposit of crystals of uric salts in the joints and elsewhere, giving rise to irritation and more or less permanent lesions discoverable *post mortem*, rheumatism, on the other hand, is due to the precipitation of crystals of uric acid of a more transient character, hence little or no evidence may be found in the joints of pre-existent disease. The facts in favor of this view may be classed under several heads: First, we may discuss the explanations which are suggested for the sudden and unforeseen precipitation of the uric acid in rheumatic fever. The absence of an excess of uric acid from the blood in patients suffering from rheumatic fever is not necessarily adverse to this view, seeing that it may be explained by this very precipitation, and Dr. Haig believes that the determining cause of this deposit is a hyper-acidity of the blood determined by dietetic, digestive, or other condition. Suppressed perspiration, for example, has a marked effect in raising the acidity of the urine, and, *ergo*, of the blood, and the same thing may be brought about by the administration of the mineral acids, acid wines, etc. On the other hand, drugs which prove most efficacious in relieving the sufferings of the rheumatic patient, do so, apparently, by increasing the out-

* In the United States chloranodyne is considered to be an improvement upon the chlorodyne and is largely used as an antispasmodic and sedative.—Ed.

put of uric acid, as, for example, is the case with drugs of the salicyl group. The latest theory of acute rheumatism is, therefore, that uric acid is driven out of the blood by an induced condition of high acidity, and precipitation in the joints, and this precipitation is made to account for the fever, and for the articular phenomena in preference to the alternative suggestion of Sir Alfred Garrod's, that inflammation has for effect to destroy the acid. The great difficulty in the way of accepting this theory is the difficulty of accounting for the fact that, though due to similar morbid action, the gouty lesions are persistent, while those of articular rheumatism are more ephemeral. The mere chronicity or otherwise of the two maladies cannot be held to clear up the difficulty, but, as suggested by Dr. Lauder Brunton, it is possible that the precipitated salts are not the same in the two cases, or even that in rheumatism it is less a precipitation that takes place than a strong solution of uric acid which is effused into the joints. Then again, it cannot be lost sight of that rheumatism is not a disease which is localized in the joints, but is, on the contrary, a constitutional condition of which the articular symptoms are only the more constant and the more prominent. There is, for instance, the question of the causation of the cardiac complications, as to which only very halting and inconclusive suggestions have been made by way of explanation. It appears that the injection of acids into the circulation will suffice to determine rheumatic pains in the subjects of the uric acid diathesis, and the injection of phosphoric acid is said to give rise to undoubted endocarditis. Even if these experiments be admitted as evidence, it is not easy to demonstrate their bearing on the matter under discussion. Proof is wanting of the possession of any directly poisonous or even irritating properties on the part of uric acid so long as it exists in solution, all the symptoms to which it is known to give rise being dependent on its precipitation. The absence of acid deposits, occasional in gout and usual in rheumatism, after death, is probably due to the fact that in all cases of death from wasting disease there is, for some time previously, an excessive excretion of uric acid, presumably drawn from the tissues, and a like effect is produced by the exhibition of alkalies; with respect to the latter, however, it is worthy of remark that, while the effect during the first day or two is to markedly increase the amount of uric acid excreted, this effect is not maintained, a fact which may be interpreted to signify that the reserves have been exhausted, only the slight increase due to increased tissue metabolism remaining. Whatever may be the fate of these ingenious speculations in the light of further observation, they afford some practical hints as to how to prevent the occurrence or recurrence of rheumatic pains, and they explain many points of which experience had already demonstrated the importance. Anything that tends to raise the treatment of these diseases from the empirical to the rational, marks a distinct advance in the science of therapeutics. So far as these observations confirm what was already known in the matter of treatment, they are beneficial, but experience has taught us the desirability of abstaining from formulating rules of treatment on so shifting and uncertain a basis as inductive physiology.—*Medical Press and Circular*, April 30th, 1890.

Abdominal Surgery.—The discussion on this subject, which took up two meetings of the Medical Society of London, is an event which the profession may contemplate with satisfaction. The debate was entirely free from the disagreeable features which are too often associated with discussions on ovariotomy and the more modern developments of abdominal surgery. The President, Mr. Knowsley Thornton, rightly congratulated the members present on the courtesy which distinguished the debate from beginning to end. Each speaker attributed his successes to his method, and as a rule laid down the triumphs of his adversaries to their skill, their patients being thereby saved in spite of their system.

The presence of so many distinguished provincial authorities was another gratifying feature. Mr. Lawson Tait, Mr. Mayo Robson, Dr. Taylor, of Birmingham; Mr. Greig Smith; Dr. Elder, of Nottingham; Dr. Malins; Dr. Griffiths, of Swansea, and Dr. O'Callaghan, of Carlow, took part in the discussion. Notwithstanding the wide area opened by the subject, the observations of each speaker were, as a rule, succinct; each confined his remarks to one or two special subjects within the domain of abdominal surgery. Much was said for and against specialism and special hospitals. Mr. Mayo Robson believed that his own successes in a general hospital sufficiently indicated that special hospitals for abdominal surgery, or even special wards in large hospitals, are superfluities. Several specialists, as might be expected, took up cudgels in favor of exclusive devotion to the practice of abdominal surgery. Mr. Doran maintained that abdominal surgery must always remain to a certain degree distinct, owing to anatomical conditions, which never change. He further advanced the opinion that the success of a limited number of general surgeons at large hospitals depended upon the fact that those surgeons are really specialists practicing general surgery—in other words, their successes depended on their special aptitude for a special branch of surgery, and thus they only prove what they wish to disprove, namely, that abdominal surgery is, to a marked degree, special. Other speakers dwelt on that great devotion to detail and to after-treatment which only the specialist could thoroughly acquire.

The chief surgical subject within the area of debate that excited most interest was removal of the fibroid uterus. The specialists mainly favored the extra-peritoneal treatment of the pedicle, with the use of the *serre-nœud*. The general surgeons mostly tended to advocate intra-peritoneal treatment of the uterine stump. Hysterectomy for fibroid disease of the uterus is undoubtedly difficult and dangerous. Ever surgeons who have performed many ovariotomies feel safest, perhaps, when they employ the *serre-nœud*, though the opposite method is far nearer to ideal surgery. The greatest difficulty of securing the main vessels is the chief obstacle to the establishment of the intra-peritoneal operation. It is instructive to learn how authorities differ in their experience on the removal of the ovaries and tubes for the cure of bleeding fibroids. Some lay stress on the perfect removal of the tubes, others declare the

operation to be useless unless the ovaries be entirely removed. Amongst the most judicious speakers was Mr. Greig Smith, who deprecated extreme and slavish adherence to any special method of treatment. Where the air is pure, no spray, he thought, is needed; where it may be impure, the spray is called for. Purgatives are not needed, as a rule, for many days after ovariotomy, but in certain cases they must be administered. In preparing a history of abdominal surgery, the historian may say *Arma virumque cano*, but in the case of any one successful operator the man is far more important than his arms. The successes of men so different in their methods of practice as many of the speakers, amply prove this fact.—*British Med. Jour.*, April 26th, 1890.

Gurjun Oil as an Expectorant.—A few weeks ago, in a communication to the Lancet, I stated that at the suggestion of Dr. Walshe I had been using copaiba as a remedy for chronic bronchitis and winter cough. I found that it was an excellent expectorant, but had this grave disadvantage—that in a large proportion of cases it brought out a rash attended with intense itching, and often accompanied by irritation of the throat, diarrhœa, and vomiting. To obviate this difficulty, I endeavored to find some drug allied to copaiba which would exert the required action on the bronchial mucous membrane without affecting the skin. After one or two unsuccessful trials, I thought of gurjun oil, which at one time was extensively used to adulterate copaiba. Gurjun balsam, or weed oil, as is well known, is a balsamic exudation obtained by incision and the application of heat, from the trunk of *Dipterocarpus turbinatus* and other species growing in the East Indies. It is a transparent liquid of the consistence of olive oil, of an opaque, dingy, greenish-grey color as seen by reflected light, and having an aromatic odor and taste not unlike that of copaiba, but without its acridity. Some years ago it was brought prominently into notice by Dr. Dougall, of the Andamans, as a remedy for leprosy, but seems to have attracted but little attention in this country. There is practically no demand for it here as a therapeutic agent, and it is a very inexpensive drug. I gave it first in doses of a drachm, and then of two drachms, three times a day, enough being ordered to last a week. I prescribed it in the form of a mixture, with liquor potassæ, spirit of nitrous ether, mucilage of acacia, and cinnamon water. It certainly was not a very inviting combination, especially as it had a tendency to "curdle," but it seemed eminently adapted for exciting a rash if the drug were eliminated by the skin. After a time I gave it mixed with extract of malt—two drachms of the balsam to an ounce of the extract—three times a day, and this was taken without difficulty. The chronic bronchitics—many of whom had previously taken copaiba—reported that it acted admirably as an expectorant, "clearing the chest" and easing the cough. In several cases I gave in addition tincture of jaborandi or nitrate of pilocarpine at bed-time, so as to produce profuse sweating, but no eruption resulted. My colleague, Dr. Colcott Fox, tells me that there are one or two cases of gurjun rash on record, but I have not been fortunate enough to see one. It is true one patient—a woman—told me that the medicine brought out some spots, but they disappeared in a few hours, and increasing the dose failed to reproduce them. It seems to me that gurjun oil has all the advantages of copaiba as an expectorant, without the grave disadvantage of exciting an eruption. It has been recommended as a remedy for gonorrhœa and gleet, but I have had no experience in its use in this direction.—William Murrell, M. D , F. R. C. P., in London "*Lancet*," May 3d, 1890.

Cerebral Surgery. — Prominent among the names of those who, by careful investigation and bold operative interference, have done so much in recent times to develope cerebral surgery, stands that of M. Lucas-Championnière, of Paris. To numerous previous papers advocating an extended practice of trephining in the treatment both of injury and disease of the cranial contents, this surgeon has lately added a summary of a communication made to the Académie de Médicine, giving an instance of removal from the brain during life of an old clot, the result of spontaneous cerebral hæmorrhage. The patient was a man, aged 53, who, after an attack of apoplexy, had remained affected with paresis of the right lower limb, marked contraction of the right hand, and epileptiform attacks, which last, as time went on, increased more and more in frequency and intensity. Study of the symptoms presented in this case having led to the conclusion that they were due to a hæmorrhagic deposit in the ascending frontal convolution, M. Lucas-Championnière decided, as the condition of the patient was in other respects good, on exposure of the supposed clot with the view of liberating the compressed and irritated cerebral structures. After the skull had been trephined over the middle of the fissure of Rolando, an encysted clot was found, imbedded, as had been expected, near the middle of the convolution in front of this sulcus. The cyst having been freely opened, the rust-colored contents were removed, and the cavity washed out with antiseptic fluid.

The results of this operation, it is reported, were very satisfactory. The contraction of the right hand ceased on the following day, and when the patient was able to leave his bed, he found that he could walk with more ease. One attack of convulsions occurred about two months after the date of the operation, but this was not repeated in the subsequent interval of four months up to the time of the publication of this report. It is difficult at present, M. Lucas-Championnière states, to form any decided conclusions as to the prospects of trephining in cases of non-traumatic cerebral hæmorrhage. Many cases, it is held, occur in which, after cerebral hæmorrhage, compression, and irritation, play so direct a part as to lead to the conclusion that operative treatment may be often applied with success. M. Lucas-Championnière can fairly claim the merit of having done much to facilitate and improve the operative methods of cerebral surgery, and to show that trephining by itself is not attended by any great risk, and also that the indications for such procedure now extend over a wide field. In his latest contribution on this subject, reference is made to as many as thirty cases of trephining in his own practice,

performed with a view to the cure of intracranial affection due to disease and not to injury, in all of which the patients recovered from the effects of the operation without the occurrence of any serious symptoms. Although in most of these cases, particularly in those of idiopathic epilepsy, the ulterior results of the operative treatment do not present instances of complete and brilliant success, they are still encouraging, and certainly justify the attempts that are being made to bring serious and very distressing affections of the brain within the range of surgical treatment.

Remarks on Eczema and Its Dietetic Treatment.—Dr. Schweninger places great confidence in regimen in the prevention and treatment of eczemas and other dermatoses. He insists particularly that good general nutrition is not so requisite as a rational regimen specially adapted to the individual. What agrees with one person may have the most disagreeable consequences in another. There should be no routine dietetic formulas. The author owes his success to his having kept strictly to individualization. In persons who suffer from obesity, with or without disturbances of the circulation, atheromatous changes, hæmorrhoids, or degeneration of the heart, eczema is found to exist, sometimes limited to isolated portions of the body, and sometimes generalized. These eczemas the author did not treat locally, but sought rather to regulate the manner of living for each individual, according to his occupation, his age, and the climate in which he lives, each patient being treated according to his idiosyncrasy. First of all, a simple regimen must be imperative. Instead of allowing an eczema patient to continue taking liquids (coffee, milk, cacao, tea, etc.), solids are ordered (meat, fish, eggs), and the results obtained are often surprising. In other cases a considerable action is obtained in separating the liquids from the solids. Likewise in a goodly number of cases there is a real advantage in ordering very little food at the time, but taken very often. Change in the hour of meals is also at times of much importance. At times a patient can take in the morning or at noon, nourishment which would not be tolerated at night.

In chronic eczemas the quantity of liquid has often a marked influence, and excellent results can be obtained by giving frequent small doses, amounting in the aggregate to four quarts a day. A better cleansing of the body is obtained by the introduction of small quantities of liquid frequently repeated.

Regulation of the bowels is of vast importance. Not so much by medicine as by preserves, fresh fruits, lemon juice, pumpernickle, bran bread with or without butter and honey, milk with the addition of sugar of milk or other substances.

Fat men have a smooth, turgescent skin, and a tendency to hyperidrosis, and are predisposed to eczemas. The perspiration has a constant irritant action.

The eczema disappears as soon as the polysarcia has been removed, and does not return unless the fat accumulates again in excess because of bad hygiene, etc.

In concluding, the author recalls the fact that in salting dishes to a greater extent, eczemas, as well as other troubles of nutrition, tend often to disappear.—*Charité Annalen*,—*Journal de Médecine.*

Hydrogen Peroxide in Diphtheria.—Dr. Elder, of Seaton, Ill., writes to the New York Medical Journal concerning a series of cases of diphtheria for which the peroxide of hydrogen was applied as a membrane-solvent. Others have written in our periodicals on this subject, notably Dr. Squibb of Brooklyn, Dr. Love of St Louis, and Dr. Major of Montreal, but Dr. Elder's results appear to have been so decisive that a description of them will pardon a little repetition. He says: "I armed an applicator with a pledget of absorbent cotton, saturated it with the peroxide in the full strength of the ordinary "ten volume solution," and rubbed it over the membrane several times. The effect was magical. The membrane did not dissolve, but softened; it took on the appearance of whipped cream, let go its hold on the mucous surfaces, and was then easily removed by the applicator. It left a raw surface, showing that the membrane had been really diphtheritic in character." This treatment, in the opinion of the writer, had not the effect of preventing the re formation of the membrane, but it left a clear surface for the application of other antiseptics and prevented auto-infection. No sign of blood poisoning appeared in this series of cases. The applications were made once an hour during the four or five days, before the membrane ceased to form. Dr. Elder is not positive in regard to the strength of the solution used by him, since the bottle from which he obtained it had no label showing whether it was full strength or not, but he believes that it was the regular ten-volume solution. Dr. Love, commonly diluted this solution with three times its volume of water; he particularizes the deodorant property of the drug in cases giving off an offensive discharge. Dr. Major began with a solution even weaker than that of Dr. Love, increasing it to the full strength as the treatment advanced; in his experience the solution removed the membrane by corroding it, so that the extruded fragments present a more or less porous or honey-combed appearance.—*Journal Amer. Med. Association*, May 10th, 1890.

A New Method of Artificial Respiration.—To perform artificial respiration with the greatest efficiency, requires two persons. The patient lying on the back—and, if possible, placed upon a table—one operator at the head takes a hand in each of his, and draws the arms directly upward, with a slow and steady pull, continuing the traction until the maximum of thoracic distention is obtained, which will require about three seconds. This accomplished, the traction is relaxed, without, however, attempting to press the arms against the sides. At this moment the other operator, who is kneeling or standing by the side of the patient, presses with both hands forcibly upon the chest in a direction backward and toward the median line, so as to diminish both the depth and the breadth of the lower half of the thorax. This pressure, like the traction, is to be made slowly and steadily, and should be continued until the maximum expiratory result is at-

tained, say two seconds. The pressure is then relaxed, and the traction on the arms follows again immediately. In this way about twelve respiratory movements per minute will be accomplished, under conditions giving the largest expansion of the chest walls attainable by manual procedure.

It will be seen that this is a combination of a part of Sylvester's method with the method of Howard. Sylvester's method is defective, in that it does not provide for efficient compression of the thorax; the position of the operator at the head of the patient making such compression extremely difficult. Howard's plan, on the other hand, does not provide for any expansion of the chest beyond the cadaveric position, and is, upon the whole, much less effective than Sylvester's. A combination of the two, carried out by two persons, secures a very considerable approach to the results of natural respiration, the action of the diaphragm alone being unrepresented. Another very great advantage is the division of labor—either of the other methods being exceedingly fatiguing to the operator.—Andrew H. Smith, M. D., of New York, N. Y. in *College and Clinical Record*, May 1890.

Coffee Inebriety.—Dr. Mendel, of Berlin, Prussia, has lately published a clinical study of this neurosis, which is growing rapidly in this country. His observations were confined to the women of the working population in and about Essen. He found large numbers of women consumed over a pound a week, and some men drank considerable more, besides beer and wine. The leading symptoms were profound depression of spirits, and frequent headaches, with insomnia. A strong dose of coffee would relieve this, for a time, then it would return. The muscles would become weak and trembling, and the hands would tremble when at rest. An increasing aversion to labor and any steady work was noticeable. The heart's action was rapid, irregular, and palpitations with a heavy feeling in the precordial region were present. Dyspepsia of an extreme nervous type was also present. Acute rosacea was common in these cases. These symptoms constantly grow worse, and are only relieved by the large quantities of coffee, generally of the infusion. In some cases the tincture was used. The victims suffer so seriously that they dare not abandon it for fear of death. Where brandy is taken only temporary relief follows. The face becomes sallow, and the hands and feet cold, and an impression of dread and agony settles over the countenance, only relieved by using strong doses of coffee. In all these cases, acute inflammations are likely to appear at any time. An injury of any part of the body is the starting point for inflammations of an erysipelatous character. Melancholy and hysteria are present in all cases. In this country the coffee-drinker after a time turns to alcohol, and becomes a constant drinker. In other cases opium is taken as a substitute. Coffee inebriates are more common among the neurasthenics, and are more concealed because the effects of excessive doses of coffee are obscure and largely unknown. Many opium and alcoholic cases have an early history of excessive use of coffee, and are always more degenerate and difficult to treat. A very wide field for future study opens up in this direction.—*Quarterly Journal of Inebriety.*

Pharmacology and Action of Cascara Sagrada.—In the March session of the Medico-Physical Section of the Museum Society in Siebenbuergen, Prof. Arpad Bokai submitted a report from the Pharmacological Institute at Klausenburg on the Pharmacognosy and Action of Cascara Sagrada:

"The red, brown, and yellow resins isolated by Prescott are the active principles of the bark, of which the red resin is the most powerful; the yellow and brown resins are weaker. The latter do not increase the intestinal secretion, and their laxative effects are based upon the promotion of peristalsis. All three of the resins impede peptic and tryptic digestion; peptic digestion is most impeded by the red resin, and least by the yellow, while tryptic digestion is affected most by the brown, and least by the red resin. The resins are capable of increasing the gastric and pancreatic juices, while their action in increasing the gall secretion can scarcely be considered. The red and brown resins possess also gentle diuretic properties."

On the basis of experiments made in his "Karolinenspital," Bokai ranks cascara sagrada as a laxative with rheum and senna, which may likewise be employed in simple as well as habitual constipation. Disagreeable collateral effects are not observed. The remedy improves the appetite remarkably (although, as with most of the Amara, it somewhat injures digestion), and its prolonged use is attended with no injury, even to pregnant women. The bitter taste may be easily disguised by the proper form of administration (pills). In cases of intermittents and polyarthritis, Bokai has found it to be without efficacy, although some commend its action even in such instances; while in the dyspepsias of chlorosis, anæmia, and convalescence, none but good results were realized: it is also a good auxiliary where diuretics are necessary and at the same time constipation must be overcome.—*Internationale Klin. Rundschau.*

The Goanese Ipecacuanha, Naregamia Alata.—This plant is much used in India for rheumatism and so called biliousness. It is certainly an emetic, in doses of from 12 to 20 grains. It has been employed by Dr. Bidie of Madras, as an expectorant, and also for the treatment of dysentery. He reports a case of the latter, treated when the patient was much enfeebled, and says that after three 20 grain doses all traces of blood in the stools disappeared.

Dr. Bidie's observations tend to the opinion that the powers of the drug are similar to ipecacuanha. He reports success in its use for catarrhal affections (as an expectorant) and for bronchitis in children.

I find Parke, Davis & Co. list a "Concentrated Tincture," prepared from the root and stems, that is miscible with water; its dose is from 5 to 10 minims as an alterative and expectorant, and as an emetic ½ to ½ fluidrachm.—*N. Y. Med. Times*, May, 1890.

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Original Articles.

GONORRHŒAL DISEASES OF THE UTERINE APPENDAGES.

BY J. M. BALDY, M. D.

So much has been said in the last few years upon this subject, that the time seems ripe for summing up what we really possess of value, and for obtaining, if possible, some definite conclusions on which to rest. After the early paper of Noeggerath, in which he advanced such impossible views as to blind the profession to the real importance of this factor in pelvic diseases, there was little or no attention paid to it. Of late, however, a renewed and invigorated start has been taken, and if the men of to day do not go quite as far as did Noeggerath, there are many who go farther, it seems to me, than they have any warrant for doing from the facts in our possession. If it is to be taught that a man once having had gonorrhœa is never cured, and consequently ever after is liable to infect his wife; that this disease exists in the form of gleet, and is dependent on a micro organism; that the presence of the gonococcus proves the disease; that the presence of a gleety discharge in the male is sufficient to explain certain troubles in the female; then it is easy to prophesy what an enormous amount of domestic unhappiness will be carried from home to home throughout the entire land, and what an amount of reproach the profession as a whole must eventually bring down upon its head, especially if, in some future time, an opposite or modified doctrine shall be taught. The enormous prevalence of gonorrhœa amongst the male population, at one time or another during their lives, is well known to all professional men; and in educating the laity hastily on this subject, we are propounding and teaching a doctrine which may be most disastrous in its results. It would seem to me that now is the time for those of us who hold a modified view on this subject to protest against these extreme doctrines.

That gonorrhœa is a frequent ætiological factor in the production of female pelvic inflammatory diseases, no one will, I think, deny. It is simply a question of how frequently the disease is a factor, what constitutes the disease, and what is the relation between it and the gonococcus. Whether or not the presence of the disease can be diagnosicated merely by the presence of the gonococcus, is of great importance, and on the final answer to this hangs our answer to those who, in many cases, depend on this evidence in making their diagnosis—such men as Noeggerath, Sinclair, Macdonald, Säenger, Martin, and others, especially amongst the Germans.

When Neisser presented his researches on the subject of the gonococcus, the professional world was in a condition of mind to blindly accept anything and everything that pertained to micro-organisms. Since then other observers haved entered this field, and many have come to entirely different conclusions from those prematurely advanced by Neisser and his enthusiastic followers. Sternberg (Medical News, 1883) writes:

The micrococcus which I have found in a certain number of pus-cells in every specimen of gonorrhœal pus examined by me, is an accidental parasite which has nothing to do with the special virulence of this fluid. A careful search with a first class objective, and by the use of staining reagents, has not revealed the presence in this fluid of any other micro-organism than this micrococcus.

This statement is substantiated by a number of most interesting experiments, the full details of which are given, amongst others the following: Three patients were selected from the wards of the San Francisco City and County Hospital:

"Case I, had been in bed for about nine months; caries of the vertebræ."

"Case II, colored; syphilitic paralysis."

"Case III, in bed some time; aneurysm of the abdominal aorta."

A culture fluid, containing the micrococcus of gonorrhœal pus, was introduced into the urethræ of each, and the result was—*entirely negative.* The experiments were repeated, with like results. Later a pure culture of the micrococcus from gonorrhœal pus was introduced into the urethræ of two healthy men by means of pledgets of cotton wool soaked in the fluid, which were left *in situ* for fifteen minutes—results entirely negative.

Dr. H. F. Formad, in a recent discussion before the Philadelphia Pathological Society, stated that he had repeatedly tried to inoculate healthy urethræ with cultures of the gonococcus, and always failed. On the other hand, Bokai, in Buda-Pesth, inoculated the urethræ of six medical students with culture of the gonococcus; at the end of a week, three were found to have well-

marked gonorrhœa. At first sight these experiments seem as conclusive as those of Sternberg and Formad; but when we recall the fact that these patients were medical students, and at liberty both before and after inoculation in a city with the moral tone of Buda-Pesth, the experiments become absolutely worthless. The gonococcus is not only *not* capable of producing gonorrhœa, but Sternberg has demonstrated that this micrococcus *can be found in other discharges*, entirely and totally distinct from those of gonorrhœa. He found "that this micrococcus is identical morphologically with that found in urine undergoing alkaline decomposition." He also made a pure culture of the micrococcus, found in a drop of pus obtained by a deep incision into a deep-seated abscess—whitlow—at the moment of its escape. "The micrococcus from this source, cultivated side by side with that from gonorrhœal pus, was under daily observation for weeks, and, as already stated, no morphological difference could be detected." If the gonococcus is the cause of gonorrhœa, then the treatment, *par excellence*, should be that by germicides, as was so enthusiastically recommended a short time ago. But it is notorious how utterly the mercurial injections have failed to control this disease, in spite of the fact that Leistikow has demonstrated that the micro-organisms disappear, or are greatly diminished in number, after a day's use of the injections; but he also admits they return again if the latter are discontinued too soon. In other words, the germicides will kill the micrococcus, but will not cure the gonorrhœa any better or as well as many remedies we have which are not germicides. If we cannot produce a gonorrhœal inflammation with the gonococcus, and if this same micrococcus is found in other discharges than gonorrhœa, and if germicides will not control a disease depending upon a micrococcus, surely we must conclude that the ground held by the above-mentioned men is untenable. If this be so, and I can see no reason to doubt it, then it matters not one iota whether or not we find the gonococcus, or what appears to be such, in the genital canal of women; their presence, as far as we know, is merely accidental as it were, and signifies nothing as far as gonorrhœal infection is concerned.

Besides the followers of Noeggerath, there are a class of men well represented by Tait, Price and others, whose "views upon the matter are based neither upon theory or upon microscopic examination," but "are from surgical experience only, or from confessions of men whose wives have been diseased by them." Although these gentlemen discard consideration of micro-organisms altogether, they arrive at much the same conclusions as do the others, viz., that most of the inflammatory pelvic diseases of women are caused by gonorrhœal infection. They claim that if a man has once had a gonorrhœa, and his wife afterwards contracts inflammatory pelvic disease, that there is here a direct and convincing relation between cause and effect, the more especially if a gleet be present; it seems to make little difference to them whether or not other well recognized causes may also be present.

That a so-called latent gonorrhœa or gleet is infectious and will give rise to an acute gonorrhœal inflammation, has never been proven, and all the evidence is against such an idea. White says (British Med. Jour., 1889):

The so-called "latent" gonorrhœa is due to changes in the m. m. of the urethra which, while they may be due to the persistence of a specific microbe, are apparently explicable by other circumstances, namely, the delicacy of the mucous lining of the urethra, and the conditions of approximation of its surfaces during the intervals of micturition, which is here as elsewhere unfavorable to the disappearance of granular or injected areas or of the traces of inflammation; the periodical passage along the canal of a secretion, the urine, which is especially liable by reason of changes in its constitution to become an actual irritant; the exposure of the whole region at times of erection to intense congestion of its vessels; the effect of gravitation; the proportionately excessive supply of blood to the region; and the absence of extravascular resistance due to the elastic character of the spongy tissue—all are conditions which favor the persistence of any vascular engorgement or congestion left after a first attack of urethritis. When in addition we consider the frequency with which gonorrhœa produces sub-mucous thickening at some point in the urethra, causing an encroachment on the calibre of the canal and, (from obvious mechanical reasons), the production of discharge, we can understand that many of the cases of "latent" gonorrhœa can be explained without reference to the existence of a specific poison.

That the gonococcus often exists in these discharges is certain, but we have already shown that their presence is a matter of little consequence, being most probably the result of the inflammation, but certainly not the cause. Whether any other specific poison exists in them, is, I think, equally uncertain. In these cases of chronic gonorrhœa or gleet where, following gonorrhœa, there has been a stricture for years, with a little discharge of either mucous or pus observed in the morning, such will no more cause gonorrhœa, than will the gonococcus. I have myself taken the discharge from such cases and repeatedly inoculated the eyes of rabbits, with entirely negative results. Not satisfied with taking these discharges when the urethræ were in a quiescent state, I have irritated the parts by the passage of sounds, two sizes larger than the men had been accustomed to use, and the next morning inoculated the eyes of rabbits, but still with negative results. Then

fearing that animals were not susceptible to this infection, I secured a man, bedridden, and inoculated his urethra with this discharge, and with just as negative results.

Again, if these discharges were capable of setting up the disease, we would have self-inoculation constantly taking place in our male patients and would have a never ending series of attacks of acute gonorrhœa. This is, however, not so. The urethral discharge from these cases is simply the same as that from a chronic ulcer in any other part of the body, and is not one whit more virulent. Gonorrhœa in the man is a perfectly curable disease and, in the vast majority of cases, *is* cured; after such a cure has been accomplished there need be no need of infection. White says: "I have seen, not dozens but hundreds of men marry who have been under my care for gonorrhœa, and subsequently became the fathers of large families, their wives being to this day, in many instances, typical examples of health and vigor." I have myself seen the same thing happen time and again.

Even if it is clearly proven that a woman has had a gonorrhœa, it by no means follows, as many assert, that any inflammatory trouble which occurs at the time of a labor or abortion is likely to be due to this past gonorrhœa, and which is "latent" (Säenger). Kroner says, "Of twenty-one women affected by gonorrhœa who had borne children from two to four times, eighteen remained perfectly well during the puerpery. Of ninety-seven gonorrhœal women only eight were confined before term, showing that gonorrhœa has little or no effect in producing premature expulsion of the fœtus."

What then becomes of such statements as: "Gonorrhœa in man as well as in woman persists for the whole lifetime in spite of apparent cure:" "Such women if they ever become pregnant, either abort or bear but one child." Surely if these statements were ever approximately true the earth would soon be depopulated.

If we prove that gonorrhœa is curable; that cases of gleet will not cause gonorrhœa; and that the gonococcus is found in other discharges as well, we come down simply to the acute and sub-acute cases of clap in men, as the cause of these pelvic diseases in women. This is exactly where, I think, the subject must rest, in the present state of our knowledge. That a man with an acute clap will inoculate a woman is beyond peradventure true, and that this inflammation so set up will travel along the mucous membrane of the vagina, uterus and Fallopian tubes, unless treated and cured, causing pelvic inflammatory trouble, is beyond cavil. In view of this well established fact, we must not rush to the other extreme, and propound such a doctrine as expressed by White, viz.: "In some instances gonorrhœa undoubtedy produces consecutively endocervicitis, tubo-ovarian abscesses and pelvic peritonitis, and necessitates a resort to operation, *but I repeat emphatically that these instances are comparatively rare and exceptional.*" (Italics mine). These instances are by no means comparatively rare and exceptional, as can be testified to by every experienced gynæcologist. Unfortunately the disease is only too frequently caused in this manner.

The question of the influence of gonorrhœa in the production of pelvic diseases in women, is one oftentimes involving a great many probabilities; and so, in deciding for or against this disease as the causal factor in any given case, too much care cannot be taken; and if other well recognized causes are present, there is no justification in pronouncing it gonorrhœal simply because the husband acknowledges to having in times past had a clap, or at present to having a gleet. In drawing clinical conclusions this has been a prominent fault with men holding extreme views. Sinclair is "disposed to agree with Noeggerath, that most of the cases of salpingitis, which we have been accustomed to look upon as of puerperal septic origin, must be classified as gonorrhœal;" and this conviction biases him in his decisions for and against a gonorrhœal cause in almost every case he quotes in his book. Case 17, as detailed by him, is a good example of the character of reasoning these men indulge in:

Patient 38 years of age. Married six years. Still-born child at end of first year. Attended by a midwife, and had a "low fever" for two months. Never pregnant since, and has suffered all the usual symptoms of pelvic inflammatory disease. Examination shows diseased appendages, with strong adhesions. Husband had contracted gonorrhœa more than a year before his marriage; he was uncertain as to whether he noticed any discharge just before marriage, or not. Was in the habit of taking his "glass of beer of a Saturday night." From the wife no evidence could be obtained of any symptoms that might not have been equally due to pregnancy.

On such meagre evidence, how can any unbiased man put this case down as due to gonorrhœa, and exclude puerperal sepsis? It is easy to see into what absurd positions such reasoning must lead us. The case is almost certainly one of septic poisoning, and it would take a most credulous mind to believe otherwise. If we are asked to accept such evidence as this, of what use are opinions from these men? If the man had *any* trouble at all immediately before marriage, it was a gleet, but the history renders even that extremely uncertain. At any rate, the gleet would have been harmless. The history of attendance by a midwife, and the "low fever for two months," stands out too prominently to be ignored.

Case 14 is called a *fairly typical case:*

Aged 24. Married 2½ years. One child after

marriage. Had been well until confinement; leucorrhœal discharge during pregnancy, but no urinary trouble. Two weeks after confinement, some severe inflammatory illness, affecting abdomen, which kept her in bed several weeks. Has suffered ever since. The child had a purulent inflammation of the eyes. The husband had a gleet for over a year before marriage, but had considered himself cured for two months, at least, before marriage took place. He observed, however, for a long time, that after sexual intercourse there used to be a moistening and adhesion of the meatus.

Here, again, there was only a gleet present in the husband, if there was even that, and there is a clear history of puerperal septic infection. The child's eyes were probably infected by the nurse's hands, which were soiled by the septic vaginal discharges.

If the husbands in these cases had a poisonous specific discharge of the urethra, they certainly had them when marriage took place. Why, then, I would ask, should the disease wait and only manifest itself after a whole year? Is it at all probable that the disease would have infected the vaginal mucous membrane, then the uterine, and have stopped short of the mucous membrane of the tube? What is this mysterious power which draws such a sharp line in its progress at the tube? If the tube were invaded early, as one would be led to expect would be the case, then the salpingitis would have prevented the first conception just as readily as it would the subsequent ones. Or if the impregnation had by any chance taken place first, then an abortion would be the probable result, as claimed by these men. But this is not true, as Kroner shows. His twenty-one women (already quoted) who were affected with gonorrhœa, had borne children from two to four times, and eighteen of them remained perfectly well during the pregnancy. This shows conclusively that many women with well marked gonorrhœa can go through the puerperal state without puerperal fever, either gonorrhœal or otherwise. What is our justification then in saying, that because a woman has puerperal fever it is of gonorrhœal origin, when even the history of gonorrhœa in the man is extremely doubtful, and in the woman is worse than uncertain. Then again Kroner reports his ninety-seven gonorrhœal women, of whom only eight were confined before term, showing that gonorrhœa has little or no effect in producing premature expulsion of the fœtus. These two cases of Sinclair's, are good illustrations of almost all those mentioned in his book, and serve to illustrate just how far a preconceived idea will influence a man's mind. On the contrary, in such a history as the following, the cause is reasonably clear and no one would be inclined to doubt it:

Young married woman, one child. Recovery from child-bed excellent. Some months after had inflammation of the vulvo-vaginal glands, with suppuration. Later she appeared with abdomen tense and painful, enlarged tubes, and ovaries, tender and painful. The husband confessed to the infection of his wife" (Price).

Here the connection between cause and effect is perfectly plain, especially as a septic origin can almost certainly be eliminated. In my own experience, most cases have had a clear history of septic trouble immediately following a labor or an abortion, together with a history of previous good health and an absolutely negative history of specific trouble, or at best an extremely dubious one. In fact, most of those I have been inclined to put down to specific trouble, have also had a history of puerperal septic trouble; it is rather the exception for me to see a case of chronic pelvic inflammation without this history. In the presence of a history of septic fever following child-birth and with an extremely dubious history of any other trouble, it would be folly for me to close my eyes and positively declare that it *must be* gonorrhœa.

In conclusion, I am decidedly of the opinion that:

1st. The gonococcus is merely the result of a gonorrhœal inflammation; never the cause of it.

2d. A true gleet, or so-called latent gonorrhœa, is non-infectious and will not cause a gonorrhœal inflammation.

3d. An acute or subacute gonorrhœa only, will cause a similar disease in the female, and consequently set up a specific pelvic inflammation.

4th. The "latent" form of gonorrhœa, as taught by Säenger and others is a myth.

5th. By far the most frequent cause of pelvic inflammatory disease in women, is puerperal sepsis.

6th. Gonorrhœa is the cause of not more than one-fourth of these inflammatory processes in women.

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LATERAL CURVATURE OF THE SPINE.

BY JAS. K. YOUNG, M. D.*

By lateral curvature of the spine is meant "a permanent lateral deviation of the spinal column, or a part of it, from the natural physiological direction" (Drachmann), or "a distortion of the trunk in which an abduction and rotation of the spinal column is associated with a deformity of the thorax." (Vogt.) This deviation is usually accompanied with rotation of the bodies of the vertebræ on their vertical axes, but as this is not essential, it need not

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necessarily form a part of the definition of the deformity.

Synonyms: Scoliosis; German, *Seitliche rückgratsverkrummung;* French, *Scoliose, déviation latérale de la taille.*—All of which express clearly the deformity, though for scientific purposes the term *scoliosis* is open to least objection, and is the one generally employed.

Lateral curvature is much more frequent than the ordinary observer would imagine, from the fact that by the proper arrangement of the clothing, deformities of slight degree are readily concealed. It is also, without doubt, the most common of all orthopædic affections, although the broad estimate made by Werner that there are 6500 scoliotic persons in Prussia, carries with it but little weight. Combining, however, the 5000 cases of deformity examined by Schilling, Berend and Langaard, 2200 of whom suffered from scoliosis, we have a sufficiently large number to show the frequency of this affection.

Taking the relative frequency among boys and girls, the larger percentage of the latter is noticeable, possibly from the greater attention given to their development, and the greater likelihood of their early consulting the surgeon upon the recognition of the deformity.

This relative proportion is found from the following table to amount to 84.5 per cent.

	No. examined.	Boys.	Girls.
Kolliker	721	144	577
Roth	200	17	183
Wildberger	120	19	101
Lonsdale	170	21	149
Ketch	229	40	189
Berend	896	123	773
	2336	364	1972

The aggravated forms are found in excess among males, though severe cases occur among females; the most severe form the writer has observed was in a female of 35 years. The relative frequency at different periods of life is best shown by the analysis made by Ketch of the material of the New York Orthopæ lic Dispensary—the number of cases from the first to the twelfth year being 52 per cent.; from the twelfth to the eighteenth year, 14 per cent.; and later than the eighteenth year, only 3½ per cent.

Scoliosis is of greater frequency among the enlightened; but that it is a consequence of civilization as has been stated by several authorities, can hardly be granted, since some of the causes — congenital, traumatic, and pathological—occur among savages as among the civilized. If, however, varieties only were considered—as habitual, static, and professional—the statement would be accurate. From the anatomical construction of the vertebral column, scoliosis affects some portions of the spine more frequently than others, the right dorsal scoliosis being by far the most frequent as a primary affection, and left primary lumbar scoliosis next in order. As primary curves they rarely exist for any length of time, being sooner or later associated with a rotation of the bodies of the vertebræ, and a secondary or even tertiary compensatory curve to enable the column to maintain its equilibrium.

Ætiology.—Congenital scoliosis, though rare, does occur as a consequence of other deformity or as a primary malformation, instances of which have been recorded. By far the greater number, however, are acquired. As an acquired affection it arises from many and various causes, the most common among the predisposing being sex. Thus, the deformity is observed more frequently in girls than in boys, —according to the statistics of Kolliker of Leipsic, and Ketch of New York, in about the proportion of four to one. Age is also a predisposing cause.

General muscular debility has but little weight, since the weak and delicate, unless as an acquired cachexia or diathesis the result of prolonged disease, do not suffer more frequently than the strong, muscular, and robust. This was particularly marked in two recent cases in unusually well developed boys observed by the writer. This cannot be said, however, of the general debility resulting from rachitis, which has been considered recently by one authority as one of the most common predisposing causes. When the number of bow-leg and knock-knee patients is considered, it is remarkable that lateral bending of the osseous spinal column does not with greater frequency yield to like causes.—This, it may be suggested, may be due to the enlarged abdomen and ligamentous relaxation, tending toward a posterior curvature rather than a lateral deviation.

Later, as exciting causes, the direct results of rachitis—bow-legs and knock-knees, anterior bowing of the femur and tibia, flat-foot, etc.—contribute their quota to the number of curvature cases. Hereditary examples of two or more members of a family, while the mother or father also presents a similar deformity, are numerous and familiar to all.

Under exciting causes also may be reckoned all those influences which in any manner disturb the equilibrium of the spinal column, and which give to the muscles of one side an advantage over their antagonists. These may be conveniently classed in the order of importance and frequency, under habitual, static, professional, pathological, and traumatic.

The *habit* scoliosis which results from the partial or unequal use of the muscular system, is equally, if not more, common among the tailor-made society misses reared and instructed in the environment of a Procrustesian atmosphere, and the factory slave unaffected by

proprieties but compelled by necessity to assume cramped positions for long periods under the most unhygienic surroundings. Habitual faulty positions, therefore, constitute by far the larger number of cases. Under this class belong also those cases resulting from lateral posture assumed to relieve ovarian pain (usually left), and to relieve pain and distention from enlarged spleen, as in a recent case of Dr. John M. Keating.

Static scolosis, or inequality resulting from alterations of one extremity, is next in importance. Whatever produces a shortening of one lower extremity, produces an obliquity of the pelvis in the opposite direction, and a primary deviation of the lumbar vertebræ. This may result from destructive changes in the joints, rachitic curves and bowing, flat-foot, or in consequence of excisions or amputations of either the lower or upper extremities.

Professional scoliosis, so called, results from oblique positions assumed during occupations. Particularly fruitful of deformity are the faulty positions assumed during writing, violin playing, and the oblique attitudes required in bearing burdens.

Pathological scoliosis is exceptional, but may result from certain inflammatory conditions, such as torticollis;* cicatrices from burns; phlegmons; caries or necrosis of ribs, etc.; pleuritic affections, especially empyæma; certain muscular conditions, as spasms; unilateral muscular atrophy and hypertrophy; muscular rheumatism (myositis); sciatica and other nerve conditions; neurotic changes, either akinetic or hyperkinetic—especially the former, of which anterior palio-myelitis is the commonest example; morbid growths of the sides of the pelvis or trunk—as encephaloid, enchondroma or sarcoma,—by their enormous weight; and sacro-iliac disease from the habitual faulty position assumed to relieve suffering.

Trauma is exceedingly rare as a cause, since fractures of the bodies or processes of the vertebræ are more liable to produce antero-posterior curvature. Non-reduced lateral dislocations would lead to permanent lateral deformity, as might also gun-shot wounds of this region.

Pathology.—The pathological anatomy of advanced scoliosis includes changes in the osseous, ligamentous, intercartilaginous, and muscular structures in the order of importance. In the early stages the change is probably first in the intercartilaginous discs.

The lesions which occur during the early stages are necessarily poorly understood from the difficulty of obtaining post-mortem specimens at this period.

In a well marked specimen the following changes are observed: The vertebræ are rotated horizontally, the excess of the displacement being in the anterior portion (the bodies). The concave side of the body is atrophied, and in some cases ossified to the adjacent vertebra by a mild-pressure ostitis, the result being a wedge-shaped body with the base toward the convexity. The root of the arch is shortened on the side, the vertebral canal is ovoidal from pressure, and even the bony fibres of the body occupy a peculiar oblique instead of an upright position. The ribs being attached to the vertebræ are also much altered in general outline. On the concave side they are depressed, the angle is more acute, and may be united where they approximate by synostoses. On the convex side they are depressed, widely separated from each other, and the angle is obtuse. From these changes in the vertebræ and ribs, the axis of the cavity of the thorax is oblique, the horizontal section representing an ellipsoid the greater axis of which is formed by the convex curvature, the lesser by the concave diameter.

The pelvis occupies an oblique position in the static cases, but in others it is more often horizontal than is generally believed. The changes occurring in the intervertebral discs take place early, and are marked. When we consider that the total thickness of all the intervertebral bodies is rather less than four inches, and that the effect of the pressure of the body in the upright position for some time reduces them more than one-fourth of their proper size, the effect of lateral pressure long continued is readily appreciated—they become wedge-shaped and lose their elasticity and ability to return to a normal position.

The ligaments connecting the vertebræ (especially the intertransverse and lateral) and connecting the ribs to the vertebræ, are shortened on the concavity and lengthened on the convexity of the curve. The muscles on the convexity are relaxed, fatty degenerated and atrophied, and on the concavity contracted, but altered to a less degree. The relations of the long dorsal spinal muscles are stretched and lengthened on the convex side, and contracted and shortened on the concave.

The flat muscles adapt themselves to the changes—the rhomboidei, trapezius, latissimus, serratus major et minor, being thinned and atrophied over the bulging parts, and shortened and thickened over the depression.

These pathological changes illustrate the results of the faulty position, but contribute little evidence as to the real ætiology of the affection. The theories proposed are too numerous even to mention, and furnish, as Copeland facetiously remarks, a keen satire on the medical art; but the theory of weight or pressure is applicable to the majority of cases, and is the one now generally accepted by writers.

Symptomatology.—The lateral curvature or

* Vide cases by writer, Medical News, February, 1890.

rotation of the vertebræ are rarely first observed. Usually the dressmaker or tailor discovers an inequality of one shoulder, or a growing out of one hip, and, these being further investigated by the surgeon, the true nature of the affection is at once revealed, They may be easily fatigued, complain of muscular weakness, and be disposed to recline or rest much of the time; or a boy complains of one suspender shoulder strap constantly slipping, or a girl of her inability to keep the shoulder straps in position. This should at once direct attention to the spine, and in slight cases the following changes will be noted:

In one of the most common varieties—the left primary lumbar curvature—the waist line on the left is flattened or obliterated, and on the right deepened, and the waist angle rendered more acute. The crest of the right hip becomes more prominent, and the crest of the left disappears. From a rotation of the vertebræ the left lumbar region becomes fuller, and the right flattened. Later, as the compensatory dorsal curve forms, the body placed in Adam's position (strongly flexed forward) reveals the serpentine course of the spinous processes, and the erector-spinal mass of muscles is flattened on the left from the deviation forward of the transverse processes.

Right convex dorsal scoliosis, very frequently a primary affection, gives symptoms still more pronounced. In the slight cases the ribs on the right side are more prominent, the scapula projects slightly backward, the left hip is a little more prominent, and spinous processes in Adam's position are curved slightly (convexly) to the right. In severe cases these changes are increased and augmented by others.

The right costal angle is increased in extent and prominent, and the left flattened and decreased. The conformation of the anterior part of the chest is affected, but to a less degree than the posterior, and the breasts are unsymmetrically placed, the left being usually more prominent and higher. The abdomen is less prominent on the left, and the umbilicus is displaced to one side. The left scapula, more prominent, is elevated and projected backward, while the less prominent left scapula approaches the median line and is flattened. With the formation of a secondary compensating lumbar curve, the alterations before described under primary left lumbar scoliosis, are superadded. And later, with the formation of a compensatory left convex cervical, the outline of the shoulder and neck is altered, and the normal beautifully curved shoulder line is changed; it is more curved on the right, the shoulder more prominent, the neck longer; on the left it is flattened, the shoulder is less rounded, and the neck shorter.

It is popularly believed by the superstitious, that persons suffering from lateral curvature possess great intelligence, bad tempers, and intense venereal capabilities. Though these qualities for obvious reasons, are more or less frequently associated with caries of the vertebræ (Pott's disease of the spine) they do not apply to sufferers from lateral curvature, who in other respects seldom differ from healthy individuals.

In severe cases, in addition to the inconvenience and discomfort of the lateral deformity, actual pain in different parts of the spine and thorax from nervous pressure may be experienced; and dyspnœa, emphysema, catarrhal bronchitis, pneumonia, and palpitation of the heart, may be complained of. The digestion may be impaired, the appetite capricious, and the patient nervous or neurasthenic; while on the other hand, aside from the deformity, he may enjoy comparatively perfect health.

Diagnosis.—The importance of a correct early diagnosis cannot be over-estimated, since it is the early stages which offer the most hope of perfect restoration. The examination should freely expose the trunk to a good light, and its contour and outlines be examined from different positions in front and behind. For this purpose the patient, if a child, should be freely exposed to below the trochanters, and the clothing conveniently secured by means of an ordinary roller bandage. The relation of the spinous processes should be carefully observed and marked while the patient, standing erect, bends far forward (Adam's position), or practices self-suspension from a bar or Sayre apparatus. The inequality of the lower extremities may be tested by thin boards or books placed under the feet, while a rule or spirit level estimates the amount of obliquity of the iliac spines. If doubt exists, or any inequality be discovered, the upper part of the body may be covered, and upon a hard couch the exact measurements of the lower extremities from the anterior superior spinous processes or umbilicus be taken. The three stages or degrees of deformity should be carefully separated, as these bear directly upon the prognosis.

In the first degree, *the curvature can be readily restored* by suspension, lying, or slight manual pressure.

In the second degree, *the curvature cannot be entirely restored by* these measures.

In the third degree, *the curvature cannot be affected in the least* by these measures.

In this connection, particular attention should be directed to those cases of so-called lateral *bending* of the spine occurring in all classes and conditions of youth from general debility, in which the spine though much deformed laterally, is without rotation of the bodies of the vertebræ, and can usually be re-

stored by effort of the patient, who is quickly relieved by attention to the general health.

Progress and Prognosis.—The progress, unless early arrested, is usually unfavorable; but the affection may be spontaneously arrested or become stationary at any stage. In the first degree, persistent and well directed measures will permanently and surely restore the symmetry; in the second the affection may with a degree of certainty be arrested, and, especially in primary lumbar scoliosis, be much improved or even cured; but in the third stage nothing can be accomplished toward restoring the function of the spinal column, and measures must be directed to concealment of the deformity.

It has been asserted, but without positive proof, that scoliotic patients are short-lived—heart lesions and apoplexy being, according to Bouvier, the most frequent causes of death. The dangers of parturition in scoliotic women are unfounded, except when the degree is of the highest grade, or rachitic deformity of the pelvis co-exists.

Prophylaxis.—The tendency to scoliosis should be guarded against by the introduction into schools of properly constructed benches and desks, by the care of the teacher to insist upon a correct sitting position, and perfect carriage while walking, and by the early correction of all deformities which tend to produce static curvature.

Treatment.—This should be directed to the removal of the cause, the restoration of the health and strength, and the correction of the deformity.

The equalization of the extremities, change of occupation, assumption of a proper sitting position or carriage, and the administration of remedies for the correction of constitutional vice, such as preparations of cod-liver oil, iron, iodine, phosphates, etc., will all be useful in accomplishing a cure.

To correct or restore the deformity, properly directed gymnastic exercises are the most potent agents at our command. To assure a cure, the patient must devote herself (or himself) assiduously and persistently to the task for a long period. Self-suspension with a Sayre apparatus, double bar, horizontal bar, trapeze, or rings, should be frequently practiced during the day, alternated with periods of recumbency. In all of these, where possible, the hand on the concave side should be uppermost. While in the prone position, a hard curled-hair pillow or bag of sand should be placed beneath the convexity, or Wolf's suspensory cradle employed. Certain forward and lateral movements upon the chest-weights should be practiced, or dumb-bell exercises employed. A very useful exercise is bending sideways supported by a strap, or over a padded bar; or, better still, while sitting, the body may be inclined forward, resting the arms upon a table, and a padded belt to which a weight is attached be passed over the deformity.

By far the best exercises are the Swedish gymnastics. These must be administered by a person thoroughly familiar with the system as taught in Stockholm, and should consist principally of hanging and lying positions, and exercises intended to restore, and massage to strengthen, the weaker muscles. Care should be taken not to over-develop these lest a curve result in the opposite direction, but all the muscles should be developed together. With these measures the best results have been accomplished, and the writer cannot speak too enthusiastically in their praise.

It will be observed that no mention has yet been made of the various apparatus still employed for the correction and maintenance of this deformity. The plaster-of Paris jacket, myotomy, tenotomy, and forcible restoration under anæsthesia, have, in the writer's opinion, no place in the treatment of lateral curvature. Of the mechanical supports, he has obtained the best results from, and has the greatest confidence in, a modified Shaffer brace. This consists of a well fitted steel waist band, with diverging steel pieces front and back attached together with webbing, and from which waist band is built up a crutch under the depressed shoulder, and a pad over the deformity. Strong webbing straps pass between the pad and the crutch in front and behind, and act laterally upon the prominence. The modifications made by the writer are, a flattened axillary crutch after the pattern of Ernst, of London, and an increased number of straps of webbing below the band to insure greater stability. It is, however, to be clearly understood that this apparatus does not aim to correct the deformity by direct pressure, but is employed rather as a *reminder* to the patient to assume a correct position, and as a slight support to the body during the intervals of exercise and recumbency.

222 South Sixteenth Street, Philadelphia, Pa.

GASTRO-HEPATIC FEVER.*

BY THOS. LEGARÉ, M. D.

The subject of fever has engaged the attention of medical men for many centuries. Some of the most able minds of every age have employed their powers in the examination of this important matter, and have endeavored to hand down to posterity the result of their observations and reflections. But what was prac-

* Read before the American Medical Association at Nashville.

tical knowledge to them, has been too often anything but knowledge to those who have endeavored to study and understand their works. We may take two cases of fever, unlike in cause, in tendency to favorable or unfavorable termination, and widely differing as to medical appliances necessary to produce a favorable result, and yet there may be such sameness in their general and even particular characteristics, that he who can make Nature breathe in every line, may find it difficult to write a description such that one may readily be distinguished from the other, even by men highly skilled in book reading and book making. Hence my few imperfect observations as made in Charleston, S. C.

Few months pass in which I have not been called to attend this fever, to which I have given the name gastro-hepatic. This name I will beg leave to apply to my remarks upon this malady, promising that, worthless as they may be, they are entirely my own, and correct so far as I can transcribe the book of Nature from which they were drawn.

Gastro-hepatic fever may be divided into three varieties:

1st. A regular remittent, rapidly running into, or assuming a continued form.

2nd. A continued fever from the commencement, in which all the prominent departures from health are discoverable in the stomach and liver.

3rd. All the manifestations of disease are made known, in a great measure, through the nervous system.

Here let me observe, however clear in the beginning the propriety or practical utility of dividing this fever into different varieties, it becomes less and less apparent as the disease advances, and at the end of the first week, or thereabouts, we often find it very difficult, even by most minute examination of the symptoms then present, to determine to what variety the case belonged in its commencement; the varieties are disposed to run one into another and become blended together, but this is less true with regard to the third, than the first two.

Gastro-hepatic fever may also be divided into three stages:

The first is the premonitory or forming stage, and includes a period of time very difficult to fix, as it may vary from a few hours to as many weeks.

The second includes about the first seven days after the patient is fully under the influence of the disease; it is the stage where high vascular excitement may be present, and in it active purgatives are not absolutely forbidden.

The third is marked by exhausting diarrhœa, and general prostration of the vital powers; it runs from about the seventh to about the ninth day after the disease is fully developed, at which time we may expect the sudaminal eruption, discharge of blood from the bowels, and swelling of the parotid glands, all of which I have been led to consider as critical.

There is no constant mode in which gastro-hepatic fever assaults its victim. In one instance it advances almost imperceptibly, the patient being unable to fix the time when he grew unwell, or to trace his indisposition to any probable exciting cause. In another case the attack is sudden, or the patient can readily fix the day when he grew sick, and charges his illness to a fox hunt, to swimming a creek, being out in a heavy rain, or to some excess, severe fatigue, or exposure to great heat or cold.

The symptoms in the first or forming stage, in the first variety, when such attacks are preceded by any indisposition, are very similar to those which I will presently enumerate as occurring in the second, but commonly of shorter duration. More frequently, however, we have, in the very commencement, a full-formed chill, followed by a remittent fever of the tertian type. The characteristics of remittent fever begin to disappear about the third day, and (nine times out of ten) before the fifth or sixth they are no longer discoverable, and we have on our hands an unquestionable case of gastro-hepatic fever. The tip and edge of the tongue, in the commencement, usually present the appearance of a red, or, in cases of great prostration of the vital powers, a pale red, hue, the centre being a dirty ashy or dish-clout color, without papillæ.

In the second variety the patient is sometimes seized when in good health, generally, if not always, in the evening, with a slight creeping coldness extending up and down the back, not amounting to rigor. Headache, pain in the back and extremities, warmth of skin, disturbed pulse, and all the symptoms that usually accompany increased arterial tension, supervene, though most commonly these symptoms are preceded for some days, perhaps a week or even a longer time, by more or less indisposition, consisting in slight headache, some pain in the loins and lower extremities, a general feeling of lassitude or weakness, irregular appetite, and sleep often disturbed and never refreshing. The common, but by no means constant appearance of the tongue in the commencement of this variety, is a red tip and edge, fading into a rather dense white fur, from which shoot out large red papillæ not unlike those seen in scarlet fever.

In the first and second varieties, more than in the third, we should apprehend sudden and dangerous congestions of the internal organs in the earlier stages, to which under my observation the brain has been most liable.

It would be very difficult to give any description of the way in which the fever assaults its victim in the third or nervous variety, or to

fix the day or even the week in which the system first began to be affected. For one, two, or three weeks, or perhaps a longer period, the patient will complain of slight but gradually increasing headache; pains in the loins, arms, legs, and almost every part of the body; lassitude and want of ability to pursue any physical or mental labor; disturbed and unrefreshing sleep; irregular appetite for food, and much impairment of the digestive function. To these may be added some pain in the bowels (I have seen a number of cases ushered in by violent attacks of colic), slight diarrhœa; and sometimes, though rarely, constipation.

On close examination, will often be found,—what the patient is at first disposed to deny,—that the urinary function is about as poorly performed as that of the digestive. Sometimes one or more, and again all, or nearly all, of these departures from health are present. In the white man, the skin is disposed to assume a dingy hue, and in the negro, a whitish ashy color.

From day to day the patient grows more and more emaciated, till at last, from general weakness, (if not from any local cause), he is forced to confine himself to bed. His inclination is to lie on his back from the first day. Up to this time, the pulse is but little disturbed, save a peculiar quickness which is never absent, and in most cases, some increase of frequency in the evening, accompanied by a skin, (especially on the body and head) rather too warm for health. The tongue presents a variety of appearances; at one time it is large and relaxed, making a mouthful, its surface being covered with a white—or rather yellowish-white—fur, through which peep forth many enlarged papillæ. At other times it is dense and thin, now and then cupped, tip and edge red, centre furred and studded with scarlet-fever-like papillæ; and again it is clean and very red, and occasionally almost smooth as glass—but this last is most likely to be the case where drastic purgatives or some improper medicine or diet have been indulged in; however, in the majority of cases the tongue presents no material departure from health. I have seen the pulse stand for days as low as 30, and for an equal period, in another case, its frequency would be 103; it is almost always more frequent in the evening. At one time it will be found full, bounding and incompressible, or jerking and vibratory; in the next case, perhaps, will be voluminous gaseous, and very compressible; and, lastly, will be met a case where, from the commencement to the termination of the disease, the pulse will show but little disposition to vary from that of health.

Headache, buzzing in the ears, dangerous congestion of the brain, bleeding from the nose, stupor or watchfulness, low muttering delirium, and every degree of mental derangement, from slight errors of perception to varying madness, may be seen when this disease is prevailing.

The eye may be brilliant or dull. There is a peculiar appearance of the eye, perhaps best expressed by the phrase, "physical glare," that tells of neither thought nor feeling, always occurring after the eighth or tenth day, which is most unfavorable. The appearance that I would describe differs from that which is vulgarly called the "death stare," and may precede death by some eight or ten days. There is a peculiar expression of the face that says as plainly as countenance can speak: "I don't know where I am;" and yet the patient is nothing concerned because he cannot fix his whereabouts.

Hæmorrhage from the nose is not uncommon, and in the earlier stages is sometimes productive of good; in the latter stages it is always a cause for alarm. Hæmorrhage from the gums also is not infrequent; but has never given me much trouble.

Deglutition is sometimes very difficult, and when altogether suspended, as I have found in many cases, is a grave, but not always a fatal symptom.

This disease, under my observation, has sometimes been complicated with inflammation in the right lung, but I have never observed this condition to obtain in the left. And every case is more liable to the cough so common to the advanced stages of protracted fevers where there is great prostration of the vital powers.

Again, there is an eruption that I have found rarely absent, to which authors have given the name of sudamina. In the vast majority of cases, the skin is dry throughout the whole course of the disease, and in some, and even fatal cases where the diarrhœa had not been considerable, the patient lost but little of the round and plump appearance of health, and this, even where the fatal termination had been delayed to the tenth day; and upon the other hand, the most emaciated beings that I have ever seen, either dead or alive, have been in protracted cases of this disease which terminated favorably; and what is worthy of remark, whilst this extreme emaciation obtained over the body and extremities, the face, and face alone, would be round and full, being somewhat dropsical.

Nausea, vomiting, pain, and occasionally great thirst, we always have; there is always a loathing to food. Grave hepatic symptoms are present in all cases; the function of the liver is feebly or irregularly performed, and a strict examination will occasionally detect slight, and still more rarely considerable, enlargement of this organ. The spleen also is always more or less enlarged, which may be detected by percussion, and careful examination with the

fingers. Likewise may be met every degree of tympanitic distension, which symptom is rarely absent, but does not generally attract much notice before the eighth day.

The secretion of urine often, and I believe in most cases, will be found scanty, and occasionally almost entirely suppressed; and I have long since been led to consider that the giddiness, buzzing in the ears, stupor, and watchfulness, and other cerebral disturbances, more especially in the earlier stages, have much dependence on the tardy performance of this very important function; I have never found these symptoms present in any very remarkable degree when I clearly ascertained the secretion of urine to be abundant. Great muscular debility generally characterizes this fever from its commencement until termination in convalescence.

In the treatment, alterative doses of calomel are given in combination with quinine and bicarbonate of soda. Mercury is a good remedy and indispensable except in the later stage of the disease. A thapsia plaster to the stomach, and the neutral mixture with a little tincture of opium, will always check nausea and vomiting. After the stools become healthy and fever lessened, the calomel is stopped, and the quinine, and soda bicarb., with piperin, continued until the patient is out of all danger. If tenderness or griping pains in the bowels occur, warmth externally, and ginger tea given as a drink, (made from the root ginger and sweetened), which is quite palatable and refreshing.

Opium in this disease is best avoided as bad results have occurred from its use. Where the fever is very high, ice placed to the wrists, and tr. aconite root three drops every two hours, has been of benefit; for the thirst, soda water flavored with sassafras fresh from the fount is of marked value, the patient eagerly drinking and saying how cooling it is in allaying the intense heat of the stomach. If stimulants are necessary, bi-carbonate of ammonia is the best. I have always excluded everything like active purgatives, or any gastro-intestinal irritant, whether medicine or diet. In fine, the more rigidly I have adhered to the treatment above recommended, the more successful I have been in my practice.

60 Rutledge Ave., Charleston, S. C.

ANOTHER REMEDY FOR SEA-SICKNESS.

The treatment of sea-sickness is one of the unsolved problems that medicine has to cope with.

The latest remedy commended is the kola-nut seeds, which Mr. Charles W. Hamilton, Surgeon, R. N., suggests in the British Medical Journal, will relieve this malady if a half a drachm to a drachm be chewed slowly. Kola has not been exhaustively investigated and we would suggest further experiments with it in *mal de mer*.

Correspondence.

INTESTINAL HÆMORRHAGE IN TYPHOID.

EDITOR MEDICAL AGE:

In an editorial comment following my communication on the above topic in the MEDICAL AGE of May 26th last, is remarked: "Dr. Mastin is in error in the supposition that ergot is contra-indicated in intestinal hæmorrhage."

I must say, that if ergot is indicated in *all* intestinal hæmorrhages, there are authorities not of that belief. Dr. H. A. Hare (Med. News, p. 152) says:

> That ergot is a powerful vaso-motor stimulant makes it of vast value in the treatment of such hæmorrhage as arises from disease of the vaso-motor system in which subcutaneous, submucous, or external hæmorrhages occur. Here its action is intended to affect the whole blood-vessel system of the body, and its use is rational. It is far different when we have to deal with hæmorrhage due to the rupture of a vessel from local disease of its walls or of the surrounding tissue. By giving ergot in the latter condition we increase blood-pressure enormously by contracting *all* of the arterioles of the body; we increase the strain upon the diseased and weakened vessel-wall as well as upon those of the healthy vessels; and we must of necessity not only render further rupture possible, but also increase the outflow from the bleeding vessel, thereby perhaps destroying the chance of clot-formation by which alone the leak can be repaired. It is impossible to see how ergot could have any selective action upon the ruptured vessel, picking it out from the rest and diminishing its calibre, and it is but natural to believe that a vessel so diseased as to suffer rupture of its wall cannot contract so well as do the healthy vessels throughout the rest of the body.

Dr. A. H. Smith (*Ibid.*, p. 529) says of hæmatemisis due to gastric ulcers:

> Ergot is generally recommended, but I cannot consider this other than one of the too common abuses of this drug. Its action upon the vessels is confined to the arterioles, and when a vessel of larger size is opened ergot can have no other effect than to obstruct the collateral circulation and thus to increase the tension in the proximal portion of the bleeding vessel. Ergot is of great value in capillary hæmorrhage, but it then acts as a ligature to the smaller vessels. Therefore we might prescribe it (hypodermically, of course) in the gastrorrhagia of cirrhosis of the liver; but it is wholly out of place in the hæmorrhage of gastric ulcer.

Granting that ergot contracts the arterioles in the web of the frog's foot, it merely goes to prove the position I take of its harmful use in hæmorrhage due to an opening into a blood-vessel larger than an arteriole; it would merely obstruct the collateral circulation, and thus increase the tension in the proximal portion in the bleeding vessel.

That the use of ergot is axiomal in cases of internal hæmorrhage does not prove that it is useful in all cases, or that it may not be pernicious in certain instances. The very fact it is possible for a custom to become axiomal and still be wrong, is the more reason it should be proven beyond possiblity of doubt that it can result in nothing but good.

From the history, it is evident that in Dr. McGregor's cases of persistent hæmorrhage the bleeding was due to capillary oozing, and ergot would be indicated; but it was very different in Dr. Braymer's case. He was called in haste and found the patient recovering from a condition of collapse, the result of sudden and rapid hæmorrhage. Nature had done good work, for Dr. B. distinctly states that the patient was recovering from a state of collapse. He administered a dose of ergot and alcoholic stimulants, and went on his way rejoicing. Some time later he was called again and found there had been another alarming hæmorrhage, and his patient at Death's door. The heart's

action was restored, when death seemed imminent, by the use of nitro-glycerin. Now, if ergot obliterates all the smaller blood vessels in the body (which it would be obliged to do to be effective in these conditions, from the fact that it acts most energetically on healthy vessels) why, after the bleeding had once been checked by Nature, did the second alarming hæmorrhage take place upon the use of a heroic dose of ergot?

O. C. MASTIN, M. D.,

SPRINGFIELD, Mo.

[Lack of opportunity and space prevented our commenting upon Dr. Mastin's former communication as fully, perhaps, as was desirable; neither, for like reasons, is it possible to do so now.

The arguments above advanced are somespecious and sweeping, and not altogether pertinent. Neither is Dr. Hare infallible in his physiology with which we most emphatically dissent, and furthermore are supported therein by the weight of testimony that is at the command of the profession, as well as by personal experience. Further, Dr. Hare is paradoxical, as he says "blood-pressure is increased by contraction of the arterioles," when but an instant before he asserted the action of ergot "extends to the entire blood-vessel system;" and again, that a ruptured artery cannot contract so well as a healthy vessel, which is not borne out by analogy or facts.

Regarding the action of ergot upon the capillaries, the merest tyro in physiology on reflection must know that any influence exerted upon the minor blood-vessels (arterioles) must to greater or less extent, according to size, extend to the arteries. Ringer says: "Whether administered by the stomach or hypodermically, ergot contracts *arteries* * * * * Dr. Sainsburg and my own experiments * * show * * * ergotin greatly retards the flow of fluid through the vessels;—showing that ergot by its influence on either the peripheral nervous system or on the muscular tissue of blood vessels, certainly induces strong contraction."

Blood-pressure is increased, not as Dr. Hare says, "by contraction of all arterioles," but by the influence of the ergot upon—to use his own words—"the whole blood-vessel system of the body." The fact is, blood-pressure depends not at all upon the influence of the drug on the heart, *per se*, since it slows and weakens this organ, owing to stimulation of the terminations of the vagi, for it does not occur if atropia is administered. An editorial assumption by Dr. Hare, will scarcely controvert the actual clinical experience and physiological experiments of Sidney Ringer.

We might add also the dictum of Bartholow that the special indication for the use of ergot in hæmorrhages is "want of tonicity of the vessels; it is used in * * * renal and intestinal hæmorrhages." Farquharson declares "ergot is now allowed to be by far the best remedy in *all* cases of intestinal hæmorrhages * * * having quite superseded the older treatment by acids and astringents," etc. Bourneville and Bricon assert it "contracts the involuntary muscular fibres of blood-vessels;" Dujardin-Beaumetz, that hæmorrhage in typhoid "calls for the administration of perchloride of iron, or ergotin—for my part I very much prefer ergotin;" Napheys, that "for hæmorrhage from the bowels there is little can be done unless, in addition to rest, the fluid extract of ergot be administered;" Whitla, "ergot is invaluable in internal hæmorrhages * * * it is useful in *all* hæmorrhages and sometimes by acting upon the muscular walls of intestines stops diarrhœa * * * it causes contraction of the involuntary muscular fibre throughout the body, the arteries diminish rapidly in calibre," etc.; Martindale and Wescott, "in intestinal hæmorrhage of typhus (Med. Times and Gazette, II, 1872, 549)" and "in hæmorrhage external or internal (*Ibid.* 1, 1874, 537)."

We might multiply this evidence *ad infinitum*, certainly *ad nauseam*.

Dr. Mastin says Dr. Braymer "found his patient recovering from a condition of collapse."

This is a gratuitous and unwarranted assumption, for Dr. B. says nothing of the kind, but that she was "suffering from what to all appearances was an irremediable collapse."

Again, Dr. M. queries: "Why, after the bleeding had once been checked by Nature, did the second alarming hæmorrhage take place upon the use of a heroic dose of ergot?"

Here he is as greatly at fault as he is in physiological applications wherein he would constitute "one swallow a summer." By turning to page 173 of the AGE, it will be discovered but *one* hæmorrhage is mentioned though hæmorrhage was previously *suspected*. The suspection of a criminal does not constitute conviction.

The truth is, criticism without knowledge of collateral facts is simple; and we do not consider either Dr. Mastin or ourselves justified therein farther than the evidences afforded warrant. So far as these obtain, however, Dr. Braymer was most certainly justified in the use of ergot, which in such conditions secures the sanction and recommendation of our best authorities. Dr. Dubonné, of Pau, emphatically declares that: "The judicious use of this drug in all cases will reduce the death rate to less than six per cent.;" and this is substantiated by Drs. Dobell and J. M. Williamson, of London, and by Prof. Hirschfield, of Vienna. For years it has been the chief agent relied upon for the control of intestinal hæmorrhages by the Staff of St. Thomas' Hospital, London, and the lowered mortality speaks for the practice, instituted and con-

tinued by some of the ablest talent of this nineteenth century. From personal experience also, we can claim like results from its employment, and regret space will not permit more full discussion of the physiological problems involved; as it is, we have given this subject far more attention than it warrants in this connection.

With regard to Dr. McGregor's cases, they *were not* "due to capillary oozing," and we did not employ the word "persistent" in the sense of *continuous*.—ED.]

AN INTERESTING CASE OF SELF-MUTILATION.

May 30th, 1890, a young married man, 29 years of age and the father of two children, secured a razor at midnight and deliberately ablated testes and penis. The only surgical aid given was to arrest hæmorrhage, and an iodoform dressing. The wound has been dressed daily, and, although in healthy condition, seems to have made but little progress. The stump of penis is about an inch long, the skin retracted from it; the cut surface represents a typical cross-section, and exhibits but slow intent to heal, probably on account of the peculiar blood-supply of the corpora cavernosa and corpus spongiosum.

It has been suggested to shave the pubes, freshen and unite the edges of the skin over the stump, and to leave a catheter in the urethra until healing takes place. As the patient is to be removed to an asylum, I cannot at present report the ultimate result.

The history of the patient is interesting, as it bears on the subject of sexual excesses.

He is of nervous temperament, and the unfortunate husband of a woman endowed with a gluttonish venereal appetite. He finally broke down completely. His wife twitted him as to his inability to satisfy her, and left him, emaciated and haggard, for stronger bucks. This preyed upon his mind till he obeyed the insane impulse to rid himself of the original cause of his condition.

It remains to be seen whether or not he will be helped by this most radical treatment.

E. M. SUTTON.

MOUNT CLEMENS, MICH.

FATIGUE AND SUSCEPTIBILITY TO INFECTIOUS DISEASE.

A Paris correspondent of the journal of the American Medical Association refers to an interesting note by Drs. Charrin and Rogers published in the Revue Scientifique. They subjected a number of white rats to severe exercise (running in a rotating cage) for four consecutive days, at seven hours each day. Eight of these tired-out animals were then inoculated with attenuated anthrax virus, four animals in a normal condition of health being inoculated with the same virus at the same time, in order to serve as a standard of comparison. The result was, that seven of the eight animals belonging to the first series succumbed, while all the animals of the second series survived.—Boston *Medical and Surgical Journal*, *May* 8, 1890.

The Medical Age.

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B. W. PALMER, A. M., M. D., Editor.

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Editorial.

DEFENSES AGAINST EPIDEMIC DISEASES.

Dr. Cyrus Edson discourses at length upon this topic in the June Forum, from which we excerpt the following:

"The term contagion is applied to those disease poisons that require direct contact with the preson suffering from them to effect their reproduction, while infection is transmissible through the medium of the air or of some other agent, as water, or food. The poison of glanders, malignant pustule, and veneral disease is contagious, while that of cholera, yellow fever, typhus and typhoid fevers, tuberculosis, smallpox, and scarlet and other eruptive fevers of childhood, is infectious. This classification does not perfectly cover the ground, as some of the latter diseases are both contagious and infectious. The poisons of the infectious diseases interest us most, for these diseases are most common and most fatal. The power they have of infecting the air we breathe and the food and water we take into our systems, makes them rank among the deadliest enemies of mankind.

"The characteristics of the infective principle of the different diseases are in some respects identical. For instance, all the infective diseases require a certain period of time to elapse between the entrance of the poison into the system and the appearance of the disease. This shows that in the case of each disease the poison is reproduced in and by the human system, until a sufficient quantity is present to effect the derangements known as the symptoms of the disease. Until recently we knew the infective diseases only by these symptoms; now we know some of them by the appearance of the germs that cause them. We know the conditions under which they thrive and multiply.

"Collections of organic matter in a state of decomposition, and undisturbed accumulations of filth, are the hot-beds of these germs. It follows, therefore, that cleanliness and fresh air are their natual foes. Ventilation, by diluting an infected atmosphere, prevents the concen-

tration of the poison. This is the reason why the eruptive diseases do not prevail in summer, when windows and doors are kept open. We know the conditions by which disease poisons are transmitted, and the media by which they infect. It is possible to exclude them from our food and drink, and to do this with certainty.

"If we do not exercise the care necessary to prevent the pollution of our water supplies and food supplies, by compelling efficient governmental supervision of them, we must expect to suffer from infectious disease. Heat will destroy all forms of life; therefore, during the prevalence of infectious disease we can reduce the danger to a minimum by thoroughly cooking our food, and by avoiding uncooked articles of diet; by boiling our milk and water before drinking them; by washing our persons, and our table and kitchen utensils with water that has been boiled. Different persons are susceptible in different degrees to the disease poisons, and even the susceptibility of the same person differs at different times. A depressed state of the system seems to favor the development of the disease germs. Heredity, too, appears to influence susceptibility. We often meet with families that seem to be specially protected against infection and contagion, while others 'catch' everything that comes their way. The power of resistence in the former would appear to be due to the invulnerability to disease poisons.

"The contagious and infectious diseases have received the name of 'zymotic;' indeed, the term zymotic covers all diseases that have what is called a period of incubation, that is, a space of time between the reception of the poison into the system and the development of the disease. Zymotic means fermentative, and the peculiarities of most of the infectious and contagious diseases would indicate that this epithet is not a misnomer. Take, for example, small-pox, and see how closely its poison-infective principle resembles the yeast fungus. The latter attacks and destroys sugary matter in dough or in wine, and having 'worked' a batch of dough or a cask of wine, can never again effect fermentation in it. Small-pox does not, as a rule, attack an individual a second time, even though his exposure to it be extreme. The material in his system upon which the infectious principle works, seems to be exhausted by it, just as saccharine matter is exhausted by yeast. Vaccination probably destroys in a milder way the matter upon which the more deadly disease feeds. As the human body is alive, and is constantly wasting and reproducing itself, it comes about that in time the food for the disease is reproduced, and then the system needs to have its susceptibility again destroyed by revaccination. So close is this resemblance between yeast and the small-pox principle of infection, that observers have attempted to prove that the yeast fungus, acclimatized in the human body, is the cause of small-pox.

"Three theories have been advanced by leading students of the zymotic diseases to account for their peculiarities. These theories are all ingenious, but they are based only upon circumstantial proof. They are known as the 'Vital Germ Theory,' the 'Nervous Theory,' and the 'Microphyte Theory.' The latter at present is the most widely accepted. I will take up each separately, and in a few words describe it.

"The vital germ theory, propounded by Dr. Lionel Beale, is based upon the doctrine that the human system consists of vital germs, separate particles of matter, each less than $\frac{1}{10000}$th of an inch in diameter, and described as soft, without color or structure, surrounded by an envelope or capsule through which liquid food passes to maintain growth. These germs, or bioplasts as they are called, multiply when they have arrived at a certain age, by splitting into halves, each half forming a new bioplast. Disease germs are believed by the advocates of this theory to be unhealthy or corrupted bioplasts; and they have the same power of development and growth as healthy bioplasts, both in a diseased body and in the body of any healthy person that they happen to enter. The contagious bioplast is said to be less than $\frac{1}{1000000}$th of an inch in diameter, and though each disease has its specific germs, their differences cannot be determined by the microscope or by analysis.

"The nervous theory, defended by Dr. B. W. Richardson, is based upon the analogy between the action of serpent poison and the poison of zymotic disease. Its advocates claim that disease poisons are developed in the secretions of the sick by changes in their character. They believe that secretions previously healthy may sometimes become changed into the poison of some of the various infectious and contagious diseases, without previous infection. The development of the abnormal secretions they believe to be due to nervous impression upon various glands. Thus, say they, hydrophobia is due to abnormal saliva from the salivary glands, scarlet fever to diseased secretions of the lymphatic glands, and diphtheria to those of the throat glands.

"The third, and most generally accepted theory, is the germ theory proper. Its many advocates hold that the poisons of disease are microbes belonging to the vegetable kingdom. Competent observers have found in almost all of the infectious and contagious diseases, microbes that are always present, and that are different for each disease. In some cases they have isolated these microbes, cultivated them, and produced symptoms of the several diseases in animals artificially infected by them.

"The first and second theories account only partially for the peculiarities of contagious and infectious diseases; the last seems almost perfectly to cover the ground.

"Infectious and contagious matter is not difficult to destroy, though if it be left undisturbed it retains its activity for a long period. The following case is illustrative of this. A servant was employed in a house where two children sickened with scarlet fever. After their recovery she lost her situation, and not till seven months later did she obtain a new place. She was several times engaged before she found a family with whom she seemed likely to have permanent employment. She then sent for her trunk, which meanwhile had remained undisturbed in the care of a friend. This trunk contained some wearing apparel that had been in direct contact with the scarlet fever patient. Within a week after she had donned this apparel, three children in her employer's family were attacked by the fever, and two of them died.

"Let us now consider the means by which we may prevent and destroy the causes that produce zymotic disease. The first effort of the sanitarian is to compel people who are gathered together in cities and towns to live in a way conducive to health; to construct their dwellings so that they shall be well ventilated; to prevent filth from accumulating; to regulate noisome industries; above all, to protect the food and water supplies. To effect all this an elaborate system of police has been devised, which enforces the laws relating to health matters. But notwithstanding all precautions that can be taken, zymotic or filth diseases will creep in and destroy life. These diseases can be kept under control only by isolation of the patients, and by thorough disinfection of all rooms, clothing, etc., infected by them. In the case of small-pox we have an additional safeguard in vaccination."

DOES MODERN PRACTICE OF PHARMACY SATISFY THE REQUIREMENTS OF MODERN THERAPEUTICS.

Dr. Frank Woodbury, Professor of Clinical Medicine in the Medico-Chirurgical College of Philadelphia, in a recent communication to the Medical Times and Register, discusses this subject most pertinently, and furnishes no little food for reflection. He says:

"It is a trite observation that every workman requires good tools in order to do his best work. If his work is inferior in quality, the fact that he used poor tools will not excuse him to his patrons. He is held responsible for, and is adjudged by, his results, and failure will be attributed to lack of ability or practical skill. It is therefore the duty of every master workman, to see that his tools are of good quality and that they are in perfect order. In like manner, every physician engaged in the active duties of his profession, should personally acquaint himself with the quality and character of the pharmaceutical preparations which he administers to his patients, and assure himself of their physiological activity and therapeutic value. If he is careless in this respect, so that his patient by his negligence is debarred from the benefit which he would have received in case the drugs were of good quality, or he is injured by using a poor article which has been supplied in place of the genuine and unsophisticated one, then a large proportion of the blame for this must rest upon the physician—he cannot evade his share of the responsibility.

"I need hardly say that I shall not denounce individuals for the fault of a system, nor presume to make charges of venality and dishonesty indiscriminately against the entire class of drug purveyors and retail pharmacists. This would be doing a great wrong. I have the honor of the acquaintance of some of them in this city and in other cities, who are reputable and upright in all their dealings, both with physicians and the public, and in fact, in every relation in life. They would adorn any station, and are the peers of any men of any profession. At the same time, I do know apothecaries, and hereabouts they dwell, who do not have such exalted names, and whose sole object appears to be the making of money, and who, in their confidential moods, freely state that they are in business for this purpose only. Now, I do not say that it is necessarily wrong in theory or in practice to make money by any honorable calling—and the calling of the apothecary is both ancient and honorable—but my contention and claim is this: In the case where honest dealing conflicts with self-interest, principle must not be allowed to suffer to put money in anyone's purse. If the business principle of buying in the cheapest market and selling in the dearest is adopted in conducting a drug business or pharmacy, and simply means buying the best goods of standard quality at the lowest market price, and charging the public a fair profit for them, certainly no one will question the right of the retail druggist to exist. But if it means buying the refuse of the market at low prices—ground drugs which would be unsalable in any other form, or elixirs, fluid extracts, and tinctures, the crude materials of which, if of good quality, could not be bought for the price of the finished product—then every one, patient, physician, and honest pharmacist, is interested in seeing that such pharmacy should not exist. From the reports of Committees on Adulterations of various pharmaceutical associations and State Boards of Health, the truth of the statement that such falsification and fraud, as

I have just indicated, not only exists but thrives, is fully demonstrated. It grows fat upon the ignorance and recklessness of a public accustomed to extravagant living; and the medical profession—I say it with regret and reluctance—has been grossly negligent in a matter closely affecting its own vital interests, and likewise the welfare of the public which it has in its keeping.

"I say nothing at present of the enormous trade in so-called patent medicines, tons of which are daily sold at extortionate prices in retail drug stores, all over this country, causing irreparable injury to legitimate medical practice, scientific pharmacy, and the public health. I know that there is money to be made by pandering to the general craze for taking medicine, and by fostering the credulity which greedily devours patent medicine advertisements and refuses to learn by experience that there is no royal road to health. There is millions in it for the newspapers, for the proprietors, for those who act as agents of the manufacturers, and last, but not least, for those druggists 'who make more money out of proprietary remedies than they do from their prescription counter.'

"But the question comes up, do we do right by encouraging and assisting to support such a class of druggists? The pharmacist is supposed, as a dealer in medicines, to be able to know the true from the false, and the good from the bad. I believe firmly that if the favor and aid of all respectable pharmacists were withdrawn from the patent medicine business, it would fall into disrepute, and no one can doubt but that there would be a tremendous shrinkage in the quantity sold. The average apothecary, then, aids and abets imposition and extortion by acting as agent for manufacturers of nostrums, the demand for which is created by fulsome advertisements in the public prints, and sustained by the apparent endorsement of respectable pharmacists.

"My motive in writing is to declare boldly that for the acknowledged evils which exist in connection with the preparation and dispensing of drugs, physicians themselves are very largely (though perhaps indirectly) responsible, and that the remedy for these evils is in their own hands. I asked a physician in large practice, if he ever instructed his patients to go to special places for their medicines, and he replied that he always told his patients that they could get them anywhere. I believe this indifference either betrayed great ignorance, or a desire to escape from the charge of collusion with the druggist—a practice which is neither honorable nor honest, because it always leads to overcharging the patient; but although such delicacy may be understood, yet it becomes culpable if it leads to the neglect of the more important interest of the health of the patient.

"My object is to urge physicians to make the personal acquaintance of druggists doing business in their vicinity, and to discriminate between the honest and qualified pharmacist and the mere pill-peddler. By so doing, he will assist the real pharmacist in his fight with the patent medicine and cut rate drug-stores, and thus advance legitimate pharmacy at the same time that he will protect his own reputation and the best interests of his patients and of the community at large. We are often disappointed in getting results from our treatment, and we may feel morally certain that it is the fault of the druggist, who has supplied a worthless preparation in place of the active agent we ordered; but we hesitate about denouncing the individual who dispensed the drug, and content ourselves with writing another prescription, to be obtained from a druggist who we know will dispense reliable preparations. It is within the experience of every one, that under such circumstances the preparation sent in the second instance is quite unlike the first in physical character and physiological effect. Suppose that it had been the other way, and the patient, disappointed in not receiving the relief that he expected, had blamed the doctor and dismissed him! Would this not interest us as physicians? Is this also not within the experience of some of us?"

THE PHYSICIAN OF THE PAST AND TO-DAY.

The physician of a by-gone age was no less pains-taking a diagnostician than his successor of to-day, though he lacked many of the elements of precision and ready helps to diagnosis which the modern physician possesses.

Experience had enabled him to differentiate diseases into a few great categories, and at the bedside he was generally accurate. His skill, too, in determining varying states of adynamia or plethora by the pulse was something remarkable.

Though they knew nothing of auscultation and percussion, yet they could fairly well recognize a pneumonia or a pleurisy by the general symptoms, the quality of the pain, the cough, the sputum, the fever, the character of the breathing, the general aspect of the patient, etc.

Phthisis was also known by its general symptoms, and all the stages of this disease were pretty well understood. In nervous diseases their knowledge was much more vague, and renal diseases were almost a *terra incognita*. Bright's disease was unknown; also most of the causes of general dropsy. A host of ailments were called *bilious* where want or excess of bile was predicated—on this point the old time practitioner was exceedingly vague, though the therapeutic indication—a course of blue pill or a calomel cathartic was always sufficiently plain to him.*

* These remarks are occasioned by the perusal of a once celebrated medical work: "Crul in's First Lines of Physic," and a recent learned paper by Leon Petit "On Moliere's Physicians." To the latter we shall perhaps refer in another number.

Book Notices.

A Treatise on Neuralgia. By Dr. E. P. Hurd. Physicians' Leisure Library Series. Paper; square 12mo.; pp. 153. Price 25 cents. Published by Geo. S. Davis, Detroit, Mich.

This brief and modest monograph must, by all who have examined it, and who are qualified to form an intelligent opinion, be characterized as a valuable contribution to the literature of neuralgia. The author was specially qualified to deal with this thesis, his extensive acquaintance with French, German and English medical literature, as also his large experience in the treatment of the neurosis, being well known. These advantages have been turned to the best account, securing us at once the merits of brevity and lucidity.

The Doctor's information is abundant and reliable, while his reflections and opinions evince sagacity and discrimination. The symptomatology is clearly and faithfully elucidated, his pathological notes showing familiarity with the most recent discoveries, and his deductions are clear and topical. Again, the diagnostic hints are precise as well as accurate, promising no little assistance to the general practitioner, while the analysis of the different treatments now followed, including the latest additions to our medical armamentarium, exhibits a discernment worthy of the author's natural acuteness and high scientific attainments.

It is a great addition to the attractions of the work to find its theories and conclusions set forth in a style at once logical and judicial. We notice important notes on massage, hypnotism, dietetic and other subjects, certain to be helpful. A very useful and complete formulary appears as an appendix A good index also is given, which is certain to be appreciated.

In conclusion, this treatise is a practical and able summary of all the facts known with regard to neuralgia. The newest theories and wisest methods of treatment, and all from the best sources, are given. The author's own clinical notes must be acknowledged of the highest value, and will no doubt be much esteemed by the profession. The work will most likely become not only a genuine favorite with the profession, but with the public as well.

Prosper Bender.

Traitment des Fractures de la Rotule par L'ouverture Immédiate et Large du Genou et la Suture Metallique des Fregments Cas de Fracture Ancienne Reconstitution du Tendon Rotulien.—Seize Cas D'Ouverture du Geno par le Docteur Just Lucas-Championnière Chirurgien de l'hôpital Saint-Louis. Paris, A. Coccoz, Libraire-Editeur, 14, Rue de L'Ancienne-Comédie. 1890.

Notes and News.

Strychnine Bon-Bons as a Pick-Me-Up.—It is to be hoped that there is no foundation for the statement in American papers that the new sensation for American ladies is the use of strychnine lozenges as a pick-me-up. They are described as small doses of putty-colored grey, each containing one-thirtieth of a grain. At any rate it is exceedingly desirable that the allegation that these lozenges are to be regarded as a safe tonic, with a bracing effect after fatigue, should not be accepted by English men or women as having a particle of truth. Strychnine is one of the most dangerous poisons, and it has the peculiar property of being accumulative in effect. The thirtieth of a grain is a large medical dose, and in excess of the ordinary dose given under the most careful medical supervision, and any one who began the practice of using this most dangerous of poisons as a pick-me-up at all, would very soon find its ill-effects; and in any thing like the dose mentioned, these effects would probably lead to fatal accidents. The theater and the sermon at church are described as places or occasions of *ennui*, in which the strychnine bon-bons are particularly grateful. But any who adopted the system might easily become the subject of a sensational domestic drama, and their place in the church before long would only be as a passing prelude to doleful funeral services.—*British Medical Journal.*

[We fear our across-the-water contemporary has been made the victim of a newspaper hoax. —Ed.]

The Binder.—To bind or not to bind the parturient female is a question with which the obstetrician still allows his mind to wrestle. At a recent meeting of the Obstetrical Society of London, it was concluded in effect that the doctor had better do as the patient felt inclined.

The matter ought not to be left in such a doubtful state. Kingdoms rise and fall, great nations disappear, cyclonic storms and volcanic fires change the face of Nature, but babies continue to be born and the mother insists on having a binder, or knowing the reason why.

The Obstetrical Society of London should not trifle with topics of such eternal moment. For our part, we say do not bind. The alleged comfort secured is imaginary, the idea that the binder can restore the figure is unscientific and unphysiological, its supposed power in helping evolution is purely hypothical, and the whole conception of a binder is unnatural and abhorrent to common sense.

The binder is a relic, not of barbarism, for barbarians are too sensible to bind, but of a half-enlightenment that is worse than ignorance. The physician who binds now-a-days does it out

of a weak complaisance to an imperious mother-in-law or officious nurse. He should, out of respect to his art, rise above such trammels to his medical skill and his intellectual independence. —*Medical Record.*

The Nature of "Nona."—From his observations of two cases of so-called "Nona," both of which were fatal, Dr. Tranjen, of Sistova (Bulgaria), believes that the affection popularly described under that name is really infective *cerebro-spinal meningitis* (Berlin. Klin. Woch., No. 22). Both these cases exhibited coma rather than symptoms of cerebral irritation or paralysis. So-called "Nona" would then be nothing but a cerebro-spinal meningitis of abnormal type; and the occurrence of such typical cases after epidemics of influenza and pneumonia is, Dr. Tranjen thinks, easy of explanation. Even if the view put forward by A. Kühn, that influenza is not a disease *sui generis* but only a rudimentary or larval form of pneumonia, be not accepted, it is yet a fact that pneumonia is always largely increased during influenza times. It may be that influenza has the power of modifying micro-organisms or their soil, so that the diseases excited by it are often nearly unrecognizable. Hence cerebro-spinal meningitis, which in its ætiology is closely allied to pneumonia, may *a priori* be expected to be, like that affection, influenced more or less by influenza.—London *Lancet.*

The Active Principle of Jequirity.—A Dutch observer, Dr. Nicolai, has been engaged in a series of observations directed to the elucidation of the question whether the irritant action of the seeds of the *Abrus precatorius*, or jequirity, is due to a non-organised ferment, or to bacteria. He found that while a pure culture from the seeds produced no irritation of the conjunctiva, a chemical preparation in which there were no bacteria set up the inflammation characteristic of jequirity. He concludes that the active body is an amorphous ferment or "entyme," which can be isolated in the form of a white powder. This substance caused conjunctivitis in four or five hours. Its activity was destroyed by a temperature of 180° C. when dry, but a 3 per cent. solution became inactive after being heated to 78° C. It was also rendered inactive by borax and by prolonged treatment with absolute alcohol. Chloroform, ether, and corrosive sublimate, did not affect it. No resemblance could be traced between it and pepsin-rennet diastase. It appeared to have strong toxic properties, for when injected into the venous circulation of rabbits it rapidly proved fatal, causing convulsions, and paralysis of the heart.—London *Lancet.*

Quadruplets in Texas.—We have always heard that Texas was a fecund State, and if there has been previously any doubt of it, the following report must establish the fact:

J. DeLeon, M. D., Ingersol, Texas, writes the Dietetic Gazette: "Mrs. Page, a Texas matron, gave birth to four flourishing infants at one labor. When Mr. Page was informed of the facts it is stated he was overcome; with a wail of despair, he threw his heels in the air and cried: 'Lord, Doctor! What shall I do?' The Doctor advised Carnrick's soluble food, and the latest reports are that the four children are flourishing, and their thrifty parents have made arrangements for a tour with an energetic manager to exhibit this four-of-a-kind in the large cities of the West."

A Tribute to Quackery.—The following excerpt from a daily newspaper has been handed to us:

Recently, in Brooklyn, a scholar at one of the large public schools met with a serious accident. An eminent physician was called in. He asked immediately what had been done. 'I have bound up the wound and saturated it with Pond's Extract," said the principal. "Very well," said the doctor, "the boy is doing nicely. I could have prescribed nothing better" Pond's Extract is the great specific for wounds, sprains, bruises, burns, and all kinds of inflammations and hæmorrhages. Demand Pond's Extract. Refuse any substitute.

The eminence of the physician does not excuse this puff of a patent embrocation which is advertised as a cure-all, and sold at a high price, though its virtues are claimed to be due to the inexpensive fluid extract of witch-hazel it contains.

Doctor Warburg, the originator of the famous Warburg tincture, is said to be living not only in poverty, but suffering from extreme want. A guinea subscription in his behalf has been set on foot by travellers and sportsman, an appeal thereto being made through the columns of The Field, London. The appeal is made to sportsmen and travellers rather than medical men, because the former who have had experience in the Indies, equatorial Africa, and like regions, "have reason to bless Dr. Warburg for a means of combating tropical and jungle fevers that rarely if ever fails."

Hypnotism in Belgium Made a Misdemeanor.—The Academy of Medicine of Brussels having memorialized the Belgian Government in condemnation of all public hypnotic exhibitions, a regulation has been adopted forbidding them. The only uses of hypnotism hereafter legally to be practiced, will be medical and therapeutical. The practice of hypnosis on girls under the age of 18 years is made punishable by fine and imprisonment.—*Journal of the Am. Med. Association.*

A Needed Law Everywhere.—Mr. Theodore M. Etting has introduced in the Councils of Philadelphia an ordinance drawn on the law

long in operation in London, Eng., which gives every householder the legal power to protect the sick-room from street noises, music, etc. It deserves the approval of all, especially physicians, who understand the great difficulty, under the most favorable circumstances, of securing quiet and rest for patients in a great city; and it would supply an important hygienic lack in the ordinances of all American cities.

Capsicum as a Counter-Irritant.—Dr. Henry J. Buck (Lancet, May 31, 1890) thinks that capsicum is one of the best counter-irritants. He uses an infusion prepared by macerating a handful of the crushed pods in hot water for an hour. The liquid is then strained and bottled for use. The addition of a small amount of Cologne-water will prevent the infusion from decomposing. A piece of lint soaked in this, applied to the skin and covered with gutta-percha tissue, may be left in position for hours without fear of blistering. The application is particularly beneficial in cases of muscular rheumatism, acute torticollis, neuralgia, etc. In cases of "relaxed sore throat," instant relief is often obtained by painting the uvula and pharynx with the infusion. A stronger lotion may be prepared, which will produce sufficient irritation if simply painted upon the skin with a camel's-hair brush.

Patients should always be warned to wash their hands immediately after using the lotion, as it is, of course, exceedingly irritating to the eyes.

A Medical "Trust."—According to the North American Practitioner, a member of the Chicago Board of Health, a west-side physician, the Mayor, and a noted criminal lawyer, have combined to form a "Medical Trust," so-called; which seems, however, to be only a kind of Provident Medical Association. Members are required to pay one dollar per month, quarterly, in advance, in lieu of all professional services which they require. This includes medicines, but whether or not nurses are also provided by the association remains yet to be discovered. The Practitioner seems to think the scheme a novel one, when in fact it is, very old, and worked with some success in England.

The Chair of Ophthalmology at Heidelberg, rendered vacant by the death of Professor Becker, has been filled by the appointment of Professor Leber, of Göttingen. Professor Vierordt of Jena is also appointed to the Professorship of Pædiatrics in the same University as a successor to the late Professor Dusch.

A New Alkaloid, *Taxine* has been isolated from the leaves, seeds, and young shoots of the yew tree, *Taxus baccata*, by Doctors Hilger and Brande, of Erlangen.

Therapeutic Brevities.

Abuse of Purgatives.—Professor Sänger, at a meeting of the Medical Society of Leipzig, spoke very strongly on the abuse of purgatives. He complained that not only did the public buy immense quantities of aperient pills, draughts, and waters, but that practitioners also pandered disgracefully to the craving for instantaneous relief from constipation, so common amongst patients. Quack laxative medicines were advertised in every newspaper, on walls, in stations, and on the trees and rocks in romantic districts of Europe frequented by tourists. The competition in invention of a new secret purgative was very keen. In this respect, a Polish doctor was not wise in his generation. This gentleman—who, according to Dr. Sänger, appeared to have no special anxiety about his patients' vermiform appendages—prescribed gravel, and boasted that he had already prescribed whole cart-loads; but a drug which anybody could scrape up in his garden could not be patented, and therefore would never gain the confidence of the public, who love mystery in purgatives as in other matters. Professor Sänger said that the abuse of these drugs caused, not habitual constipation, but rather "artificial constipation." The evil was most prevalent amongst women with chronic pelvic diseases, real or imaginary. He ordered, in such cases, that all purgatives be discontinued. He never had bad results, even when constipation lasted for over a week. Belladonna was the only drug he ever used when flatulence, etc. set in, and when the constipation lasted for very long. He objected to dieting, which kept up a pernicious feeling of invalidism, and, finding that the patients drank little water, he made them take several glasses of filtered water daily, when fasting; occasionally whey or buttermilk was given as a change. Fruit, brown bread, and exercise, were recommended. Professor Sänger found this treatment far better than massage, visits to watering places, enemata, and other familiar means to the same end. In the long run his patients had natural actions of the bowels, and were cured of their invalidism.—*British Medical Journal*, June 7th, 1890.

Lassar's Treatment for Baldness.—Baldness and phthisis pulmonalis are the despair of therapeutists, and anyone who suggests a new remedy for either is at once elevated from obscurity to world-wide notice. Our contemporary, the New York Medical Journal, gives a detailed account of the treatment for alopecia ptyroides and alopecia areata, devised by the talented Secretary of the International Congress, Dr. Lassar. The treatment is as follows, and is to be repeated daily for six weeks or more: 1. The scalp should be lathered well with a strong tar soap for ten minutes. 2. This lather is to be removed with lukewarm water, followed by colder water in abundance; then the scalp is to be dried. 3. A solution of bichloride of mercury,—1 to 900, the menstruum being equal parts of water, glycerin, and cologne or alcohol—is to be rubbed on. 4. The scalp is then rubbed dry with a solution containing beta-naphthol 1 part, and absolute al-

cohol 200 parts. 5. The final step in the process is an anointing of the scalp with an unguent containing 2 parts of salicylic acid, 3 parts of tincture of benzoin, and 100 parts of neat's-foot oil.—*Medical Record*:

A Lesson in Gynæcology.—Dr More Madden, of Dublin, in a communication to the Texas State Medical Society, advises gynæcologists—who are apt to emphasize the importance of local treatment—not to overlook the constitutional predisposing causes as well. He refers to a case occurring in his own practice wherein he became a victim to specialistic narrowness. The patient had long suffered from pelvic symptoms; had been treated for retroversion by pessaries without number; and Dr. Madden for a considerable time persevered in local treatment. At last he learned "she inherited gout," and found also the urine laden with uric acid. Under constitutional treatment she recovered, and thenceforth remained practically free from further discomfort.

For the Removal of Moles.—In the Alleg. Med. Central-Zeitung the following is recommended as very effective for the removal of moles: One part of tartrate of antimony mixed with four parts of empl. saponatum into a paste, is applied on the mole in a layer not thicker than 1-12 of an inch, then covered with strips of gummed paper. After four or five days an eruption or suppuration ensues, and several days later nothing will be left of the mole save a very faint scar. Of course, care must be taken that the application does not extend to the skin beyond the surface of the mole.—*Pharm. Post*, p. 343, April 27th, 1890.

Salix Nigra.—This remedy has been used with much success as a sexual sedative in the treatment of masturbation, excessive venery, spermatorrhæa, and ovarian disease. As a sexual sedative the fluid extract of the buds is considered the most efficient. Dose, ½ to 1 fluidrachm, not miscible with water. As a general tonic and antiperiodic the fluid extract of the bark is employed with advantage. Parke, Davis & Co. make both these extracts, and will mail to the medical profession on demand working bulletin giving botanical description, medicinal activity, use, and notes of cases.—*Medical Free Press.*

Cactus Grandiflorus in Heart Disease.—Dr. Gregory, in Rev. de Therap Med. Chir., states that he has administered this drug in functional heart diseases with good success, and deems it more valuable than digitalis in these affections. He has also found it efficient in cardiac enervation, in strengthening weak, irregular, and tumultuous hearts, especially when the patient suffers with nervous depression. He claims that it is an invaluable cardiac tonic. It does not interfere with digestion, and even when used for long periods, is well borne by the most delicate stomachs.

Medical Progress.

On the Scientific Use of Purgative Bitter Waters.—In the natural purgative bitter waters, the physician has ready to his hand remedial agents of inestimable value to him in his practice, if he only knows how to use them rightly. But I think I may venture to say that, in not one case out of every hundred where they are employed, are they habitually utilized to anything like their full capabilities.

The cause of this is the fact, that the average practitioner has not devoted that study to their physiological actions and therapeutic uses which he has bestowed upon the other drugs in his repertoire, and merely regards them as useful purgatives, to be given once in a while instead of a purgative pill, when the patient requires to have his bowels freely opened.

But it is not as an occasional purge that they should find their greatest use in practice, but the fact should be utilized that, by means of these agents given in a *prolonged and carefully-regulated course*, we are enabled to exert profound curative and alterative action upon the system.

On the Continent, however, this fact is more generally appreciated, and courses of treatment at the various Spas form a very large part of the routine practice of medicine.

In this country, although the same diseases which are thus so beneficially affected are to be found in the same abundance, yet this method of treatment has never hitherto gained any great ground, from the fact that we have no purgative mineral springs in England of any value, and that the great majority of patients cannot afford a long Continential holiday. It has often been pointed out that there is nothing magical in the locality where the spring is situated to produce the good results which follow a course of treatment at a mineral spring. It is the strict diet imposed on the patients, the regular exercise in the open air, and the systematic method of administering the water, that do the good.

And we do not sufficiently realize that all the benefits which are to be obtained by a course at Kissengen or Carlsbad can be procured at home by a careful and scientific administration of the waters at one's own house, and with the great advantage of not having to abandon one's business.

To produce this valuable result, all we have to do is to imitate, as closely as possible, the essential conditions under which the waters are taken at the foreign watering-places.

But, first of all, we must make a choice of which water we are going to use. In order to attain the highest success in the treatment of one's cases, it is far better to study thoroughly one kind of water, and master it peculiarities, than to experiment with different sorts, each having a different dose and special attributes of its own.

The advantages of one mineral water over another may be put under the following heads:

Smallness of dose: Absence of unpleasant effects: Sulphates of soda and magnesia in nearly equal proportion: Absence of unpleasant taste.

On examining the chief waters on the Eng-

lish market with a view of making a selection, one is struck by the fact that a newly-imported water, from a spring at Buda Pesth, contains 190 and 178 grains to the pound of sulphates of magnesia and soda respectively. This is much in excess of the quantities contained by either Hunyadi, Friedrichshall, or Æsculap. It is evidently, then, the strongest by far of any water on the market; and, fortunately, *happens to be almost tasteless.*

For this reason I now employ it in my practice to the exclusion of all others, and am well satisfied with the results I have obtained.

The fact has now, I think, been pretty accurately determined that an ideal purgative water should contain nearly equal parts of the sulphates of soda and magnesia, as by this we secure the hepatic action of the soda salt without the unpleasant taste of waters which contain sulphate of soda only, and in which you almost invariably find more than the traces of sulphuretted hydrogen.

In starting a patient on a course of purgative water, you must try and imitate the *essentials* of his life at a foreign Spa. That is to say, you must insist upon a sufficient amount of exercise in the fresh air, a diet which contains the minimum of saccharine and fatty matters, and absence of worry and business cares to as great extent as possible. If you can secure this, there is no necessity at all to go abroad to realise the full benefits of the treatment.

But as a little concrete teaching is worth much more than a much larger amount of purely abstract considerations, we will take a suppositious case of a city man, who is suffering from lithæmia, or, as he would call it, "torpor of the liver," and who is undergoing a six weeks' course of purgative waters, and describe what one day of his life should be.

He should rise at seven o'clock, and after having well rubbed himself down with a towel wrung out in warm water, finish off with brisk friction with a dry flesh glove; then, after a 10 minutes' spell with light dumb-bells, proceed to dress leisurely. While he is doing so, he will drink by sips a tumbler of hot water containing just as much Franz Josef water as has been found by experiment to produce a single action of the bowels. The quantity will probably be less than a wine-glass. The water must be hot, not lukewarm. After this a gentle walk of half an hour or so, and breakfast at 8.15 or 8 30. For breakfast he should take a little white fish or an egg, cold meat or game; dry toast, *with a very little butter*—but if he can be induced to forego the butter it will be better; weak tea or cocoa.

Lunch should consist of little more than a lean mutton chop, or a steak, with green vegetables, stale bread, and mashed potatoes. A sound Hock or table claret may be taken, or a little weak well diluted spirit.

Finishing his business not later than four or five o'clock, he should take at least on hour or an hour and a half in the open air, generally walking or riding, and dine about seven.

At dinner a clear soup, grilled or boiled fish, roast or boiled meat; plain boiled green vegetables; stewed fruit, sweetened with saccharin; and drink, the same as at lunch; the essential point of diet being to avoid almost entirely fat and sugar and the stronger forms of alcohol. After dinner, gentle recreation in open air, or a game of billiards, which latter provides a considerable amount of exercise. Retire to rest early, after 10 minutes at the dumb-bells.

In my experience I have found that, from a course of treatment carried out in this manner, the patient will derive almost as much benefit as if he had gone to Carlsbad or Kissengen.

And now, as to the classes of cases which are benefitted by a prolonged course of purgative water.

CHRONIC BRONCHITIS AND ASTHMA.

One often observes cases of chronic bronchitis which do not improve under the usual treatment with expectorants, and which are accompanied by frequently recurring attacks of pseudo-asthma. The dyspnœa increases, and there is a considerable amount of dyspepsia and constipation, partially due to the medicines which have been given to subdue the cough. In order to relieve these cases, we must direct our treatment, not to the air tubes, but to the stomach and liver, as the trouble very largely depends upon congestion of the liver and plethora of the abdominal circulation. As the patients feel weak and low, they have been attempting to "keep up their strength" by abundance of nitrogeneous food and alcohol, and are being really poisoned by the results of the luxus consumption. As Lauder Brunton appropriately observes, they resemble a fire on which too much coal has been heaped; it becomes choked with its own ashes.

Cases like these are immensely benefited by a dose of Franz Josef water, at the same time that their diet is cut down as regards its nitrogenous constituents to what is really required by the organism.

CHLOROSIS AND ANÆMIA.

The tendency of modern thought upon this subject appears to lean to the hypothesis, that this diseased condition is probably due to the absorption into the system of poisonous materials elaborated in fæcal matter which has been abnormally retained in the viscera. This view of the subject was introduced to the notice of the profession in a paper entitled "Observations on the Anæmia and Chlorosis of Girls," which was read before a meeting of the Medical Society by Sir Andrew Clark, in November, 1887.

If such is the case, and experience appears to confirm the theory, the use of purgatives is quite as important in the treatment of this affection as the administration of iron and arsenic, and may be advantageously combined with it.

I have often thought that the good which the internal administration of iron effects, may possibly be due to its disinfecting action upon the fæces, the insoluble sulphide of iron being thrown down, somewhat after the manner of treating sewage, known as the "precipitation method."

LITHÆMIA, BILIOUS DYSPEPSIA, GOUT, CONGESTION OF PROSTATE, AND PELVIC VISCERA.

In these cases which we usually send abroad to the purgative springs, and which derive such benefit therefrom, the victims often apparently enter on a new lease of life after a well-directed course.

Whether in lithæmia or bilious dyspepsia there is really a state of congestion of the liver, or whether, as Murchison believed, there is not only a defective secretion of bile but also an interference with the normal processes by which albumen is disintegrated, with the result of uric acid being formed instead of urea, it is quite certain that a course of this kind does a great deal of good, and, in fact, very often absolutely cures the patient, if he can only be induced to live more hygienically in the future. —George Herschell, M. D., in *London Medical Recorder.*

INTESTINAL ANTISEPSIS.—The subject of intestinal antisepsis is not new to the readers of this journal, nor, we trust, to the profession in general. Its importance, however, is certainly not fully appreciated, if one may judge from the absence of all reference to it in recent discussions on the disease—typhoid fever—in which it is most surely indicated. This would be pardonable if intestinal antisepsis, instead of being at the command of every practitioner, were an ideal to be obtained by the therapeutics of the future.

The literature on this important subject is mostly of foreign birth or extraction, and the leaders of medical thought in this country, with few exceptions, seem disposed to admit what is in Europe generally regarded as an accomplished fact.

No one can deny that the intestine is a species of laboratory in which are manufactured poisons of the most virulent nature, and that the chief barrier against their fatal invasion of the general circulation is the liver. This barrier may, however, be forced, and this happens when the liver is overcome by an excess of leucomaines, or, on account of functional disorder —*hepatic inadequacy*, so to speak—is unable to dispose of a normal invoice of these products.

These facts are no sooner stated than acknowledged; indeed, they are property common to the layman and the physician. The association between such signs of systemic poisoning as ill-humor, hypochondria, and constipation, is proverbial, and no one has been more keenly appreciative of the fact than Voltaire, who terminates an admirable description of the good nature and benevolence of those whose bowels are regular with the statement that a refusal from the mouth of such a person is more gracious than an assent from one who is constipated.

In a recent article on the treatment of diarrhœa and constipation by Dujardin-Beaumetz (Bulletin Général de Thérapeutique, April 15th, 1890), the importance of intestinal antisepsis in both these conditions is insisted upon. The fact is not generally appreciated that purgation and antisepsis are, to some extent, interchangeable terms, and that the relief that follows the employment of a cathartic is not so much due to the mechanical effect of "unloading the bowels" as to the expulsion of substances which are slowly poisoning the system. These substances not only act in the manner just indicated, but through their irritating effect on the intestine they tend to keep up a diarrhœa which, in its onset, may have been highly conservative. From these facts may be explained the curative effect of a purge in the early stages of some forms of diarrhœa. When, however, a catarrhal condition is fairly established and occupies a considerable portion of the intestinal tract, the indications are not fully met by cathartics. Under such circumstances admirable results are often obtained by drugs whose favorable action can only be explained by intestinal antisepsis. Among such are thymol, naphthol, and salicylate of bismuth. There is none better than the first mentioned, which is perfectly innocuous in large doses and possesses an antiseptic power four times greater than that of carbolic acid. Its value as an antiseptic seems to have been more fully recognized in Italy than elsewhere, and has been endorsed by Martini, Bufalini, Testi and others. In our opinion it is, when properly administered and in suitable doses, *facile princeps* among intestinal antiseptics. Salicylate of bismuth is also an admirable remedy of this sort, and the one most approved by Dujardin-Beaumetz in the article mentioned. He usually administers it in capsules in combination with magnesia, sodium bi-carbonate, prepared chalk, phosphate of lime, beta-naphthol, or charcoal.

It is not for want of suitable drugs that intestinal antisepsis is not more systematically carried out. The difficulty is that the indications for their employment are not generally recognized. Systematic therapeutics of any description is the outcome of systematic diagnosis, and the latter, so far as gastro-intestinal affections are concerned, is of very recent date.

There are, as Dujardin-Beaumetz points out, at least three distinct varieties of auto-intoxication proceeding from the gastro-intestinal tract. First, there are the various symptoms, too numerous to be here detailed, dependent upon habitual constipation. Second, a more acute condition, of which the chief symptoms are a coated tongue, loss of appetite, and sometimes fever. This is the *embarras gastrique* of the French and is caused by the ingestion of improper food, or of "*toxines*" contained in the atmosphere. The latter statement is based on the fact that the symptoms referred to often arise after a prolonged stay in a poorly ventilated and overcrowded apartment, or in a dissecting-room. The third variety is accompanied with vomiting, and is generally known in this country as acute indigestion. It is significant of more acute poisoning or of a more susceptible organism, and consequently is more frequently observed in children.

The treatment of these different forms of poisoning, whether it be exclusively dietetic or partly medicinal, is functionally antiseptic, and the general recognition of this fact will alone serve to bring into general use a line of treatment which is now habitually followed by a minority.—*Medical News*, June 7th, 1890.

THE THERAPEUTIC USES AND TOXIC EFFECTS OF CANNABIS INDICA.—A valuable contribution to the literature of Indian hemp is a paper with this title published in the Lancet for March 22d, 1890, by Dr. J. Russell Reynolds.

In explaining the occasional toxic effects of this drug, two things must be remembered: First, that, by its nature and the forms of its administration, *Cannabis Indica* is subject to great variations in strength. Extracts and tinctures can not be made uniform, because

the hemp grown at different seasons and in different places varies in the amount of the active therapeutic principle. It should always be obtained from the same source, and the minimum dose should be given at first, and gradually and cautiously increased. The second important fact to keep in view is that individuals differ widely in their relations to various medicines and articles of diet—perhaps to none more than to substances of vegetable origin, such as tea, coffee, ipecacuanha, digitalis, nux vomica, and the like. In addition to the purity of the drug, the possibility of idiosyncrasy must be borne in mind as calling for caution in giving Indian hemp. By gradually increasing the dose and habituating the organism to its use, the use of cannabis Indica may be pushed to three or four grains at a dose with positive advantage. But in Dr. Reynolds' experience a grain would bring about toxic effects in the majority of healthy adults; and a quarter of a grain has done the same, but never a fifth, which is the proper amount with which to begin the use of the drug among grown persons, a tenth of a grain being the proper initial dose for children. The best preparation for administration is the tincture—one grain to twenty or ten minims—dropped on sugar or bread. The minimum dose should be given, as before stated, repeated every four or six hours, and gradually increased every third or fourth day, until either relief is obtained or the drug is proved useless. With such precautions, Dr. Reynolds states he has never met with toxic effects, and rarely failed to ascertain in a short space of time the value or uselessness of the drug.

Its most important results are to be found in the mental sphere; as, for instance, in senile insomnia, with wandering. An elderly person (perhaps with brain-softening) is fidgety at night, goes to bed, gets up, thinks he has some appointment to keep, that he must dress and go out. Day, with its stimuli and real occupations, finds him quite rational again. Nothing can compare in utility to a moderate dose of Indian hemp at bedtime—a quarter to a third of a grain of the extract. In alcoholic subjects it is uncertain and rarely useful. In melancholia it is sometimes serviceable in converting depression into exaltation; but, unless the case has merged into senile degeneration, Dr. Reynolds does not employ cannabis Indica. It is worse than useless in any form of mania. In the occasional night restlessness of general paretics, and of sufferers from the "temper disease" of Marshall Hall, whether children or adults, it has proved eminently useful.

In painful affections, such as neuralgia, neuritis, and migraine, Dr. Reynolds considers hemp by far the most useful of drugs, even when the disease is of years' duration. In neuritis the remedy is useful only in conjunction with other treatment, and is a most valuable adjunct to mercury, iodine, or other drugs, as it is in neuralgia when given with arsenic, quinine, or iron, if either is required. Many victims of diabolical migraine have for years kept their sufferings in abeyance by taking hemp at the threatened onset of the attack. In sciatica, myodynia, gastrodynia, enteralgia, tinnitus aurium, muscæ volitantes, and every kind of so-called hysterical pain, cannabis Indica is without value. On the other hand, it relieves the lightning pains of ataxia, and also the multiform miseries of the gouty, such as tingling, formication, numbness, and other paræsthesiæ.

In clonic spasm, whether epileptoid or choreic, hemp is of great service. In the eclampsia of children or adults, from worms, teething (the first, second, or third dentition), it gives relief by itself in many cases. Many cases of so-called epilepsy in adults—epileptoid convulsions, due often to gross organic nerve-center lesions—are greatly helped by cannabis Indica, when they are not affected by the bromides or other drugs. Take, for instance, violent convulsions in an overfed man, who is attacked during sleep a few hours after a hearty supper, the attacks occurring two or three times an hour for a day or two, in spite of "clearing the *primæ viæ*," or using bromine or some other classic drug. These attacks may be stopped at once with a full dose of hemp. In brain tumors or other maladies in the course of which epileptoid seizures occur, followed by coma, the coma being followed by delirium—first quiet, then violent—the delirium then passing into convulsions, and the whole gamut being repeated, Indian hemp will at once cut short such abnormal activities, even when all other treatment has failed. In genuine epilepsy it is of no avail. In cases where it has seemed to do good, the author doubts the correctness of the diagnosis and suspects organic lesions or eccentric irritation. In toxic spasms, such as torticollis and writers' cramp, in general chorea, in paralysis agitans, in trismus, tetanus, and the jerky movements of spinal sclerosis, cannabis Indica has proved absolutely useless. At the same time, it is most valuable in the nocturnal cramps of gouty or old persons, in some cases of spasmodic asthma, and in simple spasmodic dysmenorrhœa. Thus it will be perceived that for the relief of suffering, quite apart from a curative effect, hemp must ever be held in high esteem and ranked with the poppy and with mandragora.—*New York Medical Journal*, June 7th, 1890.

THE POISONOUS ACTION OF ABSINTHE.—It seems proper to call attention to certain recent investigations of poisonous action of absinthe that have been made by some of our French colleagues—notably by Déjérine, whose observations are contained in a *thèse d'agrégation* entitled L'Herédité des Affections Nerveusees, published in 1886; by Combemalle (Archives de Neurologie, 1888. p. 484); and by Cadéac, Meunier, and Laborde (Gazette Hebdomadaire de Médecine et de Chirurgie, Oct. 4th, 1889, p. 637).

M. Déjérine maintains that all the poisons that affect the intellect are very similar in their action, and produce forms of insanity that are "approximately identical;" and M. Combemalle declares that alcoholism in its broadest sense may result from the use of essences as well as from alcohol itself. M. Cadéac and M. Meunier, who presented the results of their experiments before the Académie de Médicine, came to the conclusion that most of the evil attributed to indulgence in absinthe was really due to the essence of anise.

This was in direct contradiction of what had previously been accepted, especially since Laborde and Magnan's investigations. The importance of the subject will appear more clearly if we recall Combemalle's experiments:

A bitch was dosed with ordinary absinthe at the daily rate of from half a teaspoonful to a teaspoonful for each kilogramme she weighed. After a time she gave birth to a litter of six pups. One of them was born dead, in another only one testicle had decended, and all of them were much less intelligent than the dam. One of the female pups, having grown up, bore a litter of three pups, without having been alcoholized herself. One of them died on the first day, the second died of athrepsia within a few days, and the third had various defects of development. In another instance a male dog was poisoned with absinthe given at the daily rate of between two and three teaspoonsful for each kilogramme of his weight. He was then allowed to line a bitch, and she brought forth a litter of twelve pups. Two of them were born dead; two died of pneumonia; one was suffocated accidentally; one had thread-worms; one had verminous enteritis with general epileptoid convulsions; one had numerous intestinal worms, also meningeal congestion, with coagula in the superior longitudinal sinus, and a fatty liver; one had so many gastric and intestinal entozoa that they blocked the alimentary canal completely, also congestion of the left cerebral hemisphere; and one died of peritonitis, probably tuberculous, and its left hemisphere weighed half a drachm less than the right one—a condition that was observed also in two of the others. So it is asked, "Is not alcohol the genius of degenerative processes?" In other cases Combemalle found steatosis of all the glands, atheromatous patches in the arteries, pachymeningitis, and atrophy of the testicles and of the ovaries. Magnan observed facial asymmetry, prognathism, arrested development of the extremities, club foot, lesions of the genito urinary organs, precocious sterility, and various mental and moral defects.

Cadéac and Meunier's communication led to the appointment of a Commission, consisting of M. Ollivier and M. Laborde, to investigate the matter. As the result of this investigation, M. Laborde reported that absinthe itself was the real injurious agent, and that essence of anise, even in large doses, did not produce the same results; and he implied that Cadéac and Meunier had used adulterated absinthe in their experiments. Absinthe was again declared to be among the injurious alcoholic preparations. Coinciding as they do with those drawn from common observation, M. Laborde's conclusions are not likely to be upset by anything short of the most convincing experiments.—*N. Y. Med. Journal*, June 14th, 1890.

Hæmostatic Action of the Penghawar Djambi Tampon.—Dr. Noltenius in Therapeutische Monatschefte, March, 1890, writes as follows:

Under the name of *Penghawar Djambi*, the golden-yellow silky stem-hairs of the rhizomata of various tree like ferns growing in Sumatra and Java, have been introduced into commerce. Formerly they were used more than now for hæmostatic purposes; several physiologists use them yet therefor in vivisection.

I find that the action is by no means due to the absorption of water, as penghawar seems to act repellently towards liquids. Neither has it any blood-coagulating properties, and beef blood was not coagulated any sooner with penghawar than the blood used in a control test. I believe that its action rests only on its appreciably higher degree of elasticity (accordingly, only on its greater pressure against the bleeding surface).

Mikaliez in several operations peeled out an angioma of the eye and brow region, and each time pressed a portion of unmixed penghawar into the bleeding wound, and maintained it there by a compress bandage, with the best results. In the microscopical investigation, the penghawar hairs were found in the tissue fissures and vessels, and round about them numerous formations of giant-cells; and no inflammatory affection of the tissues could be shown. The formations of giant-cells had taken their origin in a proliferation of the endothelium of vessels. Penghawar is even, if not antiseptic, assuredly aseptic. I recommend the mixture of penghawar djambi with ordinary wadding as proposed by Michelson. A 10 per cent. iodoform penghawar tampon is also in the market.

The writer has for years past frequently employed the penghawar in ordinary nose bleed with the best results, but cannot endorse the foregoing views respecting its mode and manner of action. Often the quantities introduced into the nostril were by far too small to exercise any considerable compressing action. The writer believes that it develops its activity only through mechanical irritation of the vessels which it causes to contract. The freshness of the preparation is also an important factor. Recently the writer employed in vain an old black preparation which the apothecary had confessedly had in stock for years, and the former was obliged to resort to tamponade of the nostril in front and at the back. The patient had lost a half-pail of blood in about ten hours. —*Med. Monatschrift*, May 9th, 1890, p. 244.

Sterilization of Water.—The conclusions of Charles C. Currier, M.D., in a paper on the above topic, are as follows:

Unless extraordinarily resistant, water becomes sterilized if it be at or near the boiling temperature for fifteen minutes. If the same degree of heat be maintained for five minutes, all harmful micro-organisms will have been destroyed. Still less time serves to destroy the disease-producing varieties which are recognized as liable to occur in water. Thus merely raising to the boiling point a clear water containing the micro-organisms of malarial disorders, typhoid, cholera, diphtheria, or of suppurative processes, and allowing it to gradually cool, insures the destruction of these germs. They are also destroyed by keeping the water for from a quarter to half an hour at a temperature of 70° C.

Occasionally, however, very resistent but harmless bacteria may get into water. The brief heating renders them safe for drinking purposes; but when it is desired to destroy every micro-organism that may be present in a contaminated water, it should be heated for one hour and allowed to cool slowly. Then it may be used for cleansing wounds or for alkaloidal solutions which will keep indefinitely if no germs be introduced after the solution has been heated.—*Medical Record*, June 14th, '90.

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Original Articles.

TROPHO-NEUROSIS OF THE ORAL CAVITY WITH ESPECIAL REFERENCE TO SYPHILITIC NECROSIS.

BY G. FRANK LYDSTON, M. D.

At the meeting of the Southern Surgical and Gynecological Association, held in Nashville, November, 1889, I had the pleasure of presenting certain views regarding the relation of tropho-neurosis to the phenomena of syphilis. In that essay I endeavored to show the dependence of every phenomenon characteristic of syphilis upon certain more or less obscure changes in the sympathetic nervous system (organic or functional, temporary or permanent), which resulted in aberrations of its trophic function. The more thoroughly I study the phenomena of syphilis the more firmly convinced I become not only of the dependence of syphilitic phenomena, but that of many other morbid changes which have hitherto appeared inexplicable, upon tropho-neuroses.

In a general way it may be said that disease affecting the animal body can only be produced by one of two things, to-wit: (1) Perversion in the quality or quantity of that nutritive material which constitutes the pabulum upon which the various structures of the body feed: (2) Some perversion of that nervous energy upon which building up of the tissues depends, as in building a house. If the workman be skilled and his materials good, the result is a good house; so in the building up of the tissues. If the nutrient pabulum or lumber be first-class, and the workman, the nervous system, performs his functions properly the result will be healthy tissue. Now, what is it that acts as a governor for the process of tissue building? Certainly the sympathetic system. The sympathetic system through the medium of its trophic fibres indubitably presides over the functions of nutrition, of waste and repair. Incidental to repair we have a reproduction of cell growth through the medium of the leucocytes. If the integrity of the sympathetic ganglia or their afferent nerves be impaired, the young cells in the process of growth instead of developing into a normal deposit connective tissue cells, fail to become perfectly differentiated, and as a consequence they retain the physical characters of young or embryonal cells. Not only do these young cells fail to be transformed into vigorous tissue structure, but they manifest the usual tendency of embryonal cells, to-wit: To abruptly proliferate and speedily degenerate. It is discovered on section of the syphilides, wherever found, that they are composed of cells in nowise different from young connective tissue cells. Fesenden Otis lays much stress upon this point. There seems to be but little difference between the syphilized cell and that progenitor of all connective tissue cells—the leucocyte. An increased rapidity of proliferation, perhaps a trifling increase in size upon the average, and the power of infecting healthy tissue, are the only new properties which the cell acquires by virtue of its syphilization. With the exception of the property of infectiousness, these qualities are possessed by all imperfectly differentiated cells. Place a young connective tissue cell and a syphilitic cell under the microscope, and we cannot tell the one from the other.

The morbid propensities of embryonal cells are well shown in cancer, in which disease, if Cohnheim be correct, they are the foundation of the morbid process. I firmly believe that malignant growths are explicable upon the same grounds as syphilitic neoplasia. It has seemed to me that the reason that an injury of the tissues in one individual is followed by cancer, while in another normal repair occurs, is that in the former the functions of the sympathetic are impaired, and instead of a normal differentiation and building up of the cells, there occurs a heaping up of embryonal cells. There is practically no difference between such embryonal cells and those which, according to Cohnheim, remain imprisoned in the fœtal structures to develop under proper stimulus into cancer in after life. Such a development of imprisoned embryonal cells this celebrated pathologist believes to be the *fons origo et mali* of cancer.

In considering abnormal tissue growth we must first consider the medium through which normal tissue growth occurs. If we accept the view that normal tissue repair depends for its performance upon the integrity and function of the sympathetic nervous system, we must *nolens volens* accept the view that any pathological process in which a heaping up of tissue, degraded or otherwise, occurs, is produced through the medium of some aberration

of the trophic function of the sympathetic. This, it seems to me, is an indisputable fact and is the basis of my theory of the tropho-neurotic character of the phenomena of syphilis. There are numerous trophic disorders which are pertinent to the question of the dependence of the lesions of syphilis on a sympathetic neurosis. For example, bed sores, perforating ulcers incidental to paralysis, certain abscesses, changes in the bones and joints in spinal arthropathy or Charcot's joint disease, and gangrena vaso-motoria. Raynaud's disease, or symmetrical gangrene, is attended by gangrene of localized areas of the skin, and certain portions of the extremities which are unquestionably due to nervous disturbance.

This disease was long confounded with erysipelas; its phenomena are those of ischæmia of tissue, followed by erythema, cyanosis, and gangrene.

I have noticed in syphilis in certain instances a marked tendency to fluctuations of vaso-motor impulse. Thus I have observed a number of cases in which there was a marked tendency to epistaxis, hæmoptysis, hæmorrhage from the bowels and kidneys. In several cases complicated by stricture, I have observed a tendency to hæmorrhages from the urethra. Certain diseases of the skin have been described, and quite appropriately, as dermato-neuroses. Leloir states that certain lesions of the skin are a premonition of threatening neurotic trouble of a serious character. For example, one of his patients suffered with a severe herpes zoster of the right side of the chest for a short time, six months before having been entirely healthy. Six months later paraplegia and paralysis of the sphincters occurred as a consequence of syphilitic myelitis. In a second case he observed the existence of a patch of non-parasitic alopecia areata for a short time prior to the development of the cerebral lesion of syphilis. The same lesion in another case apparently heralded the development of cerebro-spinal syphilis and general paralysis. In still another case labial herpes and scleroderma in circumscribed patches occurred from time to time for several years and were followed by general paralysis.

Duplay records one case in which zoster of the inferior extremity led to the discovery of Pott's disease of the spine. In another case recorded by the same observer, œdema of the lower limbs with pigmentation of the skin led to a diagnosis of spinal meningitis.

Raymond cites a case in which intense herpes of the pharynx preceded the cerebral. Eczema and neuralgia oftentimes precede the development of chorea.

In my essay upon tropho-neurosis in syphilis, I have called especial attention to the association of alopecia areata and herpes zoster to neurotic disturbances. My friend, Professor Ohmann-Dumesnil, of St. Louis, has reported several cases of alopecia due to traumatism.

My attention was first called to the possible dependence of syphilitic lesions upon tropho-neuroses by a series of cases of necrosis of the maxilla, alveolar processes, and palate and bones of the nose, occurring in cases of tertiary syphilis. In studying these cases I was led to pursue the line of thought a little further, and I found that evidences of the dependence of syphilitic phenomena upon organic or functional disturbances of the sympathetic system are quite positively manifested here and there along the whole line of morbid phenomena developed in the course of the disease. There is not a lesion of syphilis which cannot, it seems to me, be explained upon this theory. Even the affinity of syphilis for the lymphatic glands appear to be analogous to those phenomena which occur in Hodgkin's disease and leucocythæmia—diseases which are inexplicable save upon the neurotic theory. In the late or sequelar syphilides there is a special tendency to disturbances of a tropho-neurotic character. It would appear that syphilitic infection not only has a peculiar affinity for the sympathetic nervous system, but that this affinity is particularly marked in the upper or cervical portion of the sympathetic. All through the disease the proportion of lesions about the head, face and mouth, is relatively much larger even under the best treatment than in other portions of the body. The parts supplied by the fifth cranial nerve appear to be particularly susceptible. There are few cases indeed, no matter how thoroughly they may be treated, that are not affected at one time or another with lesions of the lips, inner surface of the cheeks, tongue, throat and scalp. Cases are frequently met with in which the initiatory and active periods of the disease have been passed through without serious trouble, when suddenly and without warning serious destruction of the nasal, palatal, or maxillary bones are manifest. I have long been impressed by the peculiar course of some of the lesions of late syphilis, particularly those affecting the head, face, and oral cavity. It has seemed to me that the destructive effects exerted by the morbid process upon the bony tissue is greatly disproportionate to the objective and subjective phenomena which precede the actual destruction. For example, I think that upon reflection it will be found that the objective morbid phenomena which deposit the necrosis *en masse* on various parts of the palate, superior maxilla and nasal bones, are comparatively slight, when we take into consideration the fact that the affected bone is entirely destroyed. Indeed, it often seems that the first objective phenomenon perceptible in cases of necrosis of the parts mentioned is not only a destruction of the bone *per se*, but is an at-

tempt on the part of Nature to rid the tissues of offending foreign material. Thus I have observed cases in which the greater portion of the palate was entirely destroyed, yet very little manifestations of trouble were apparent until suppuration occurred, with a small point of ulceration of the soft parts covering the bone and the discharge of a small quantity of pus—a quantity, by the way, so small as to be entirely disproportionate to the extent of the morbid process. On passing a probe into the small sinus thus formed, one who is not thoroughly conversant with the peculiarities of such conditions, would quite likely be surprised to find that a large portion of the bone is dead and perhaps loose in the tissues. It will be found upon observation of processes other than syphilitic, which produce necrosis or caries of bone, that there existed prior to the death of the osseous structure, quite pronounced objective phenomena in the way of pain, swelling and deformity of the parts; these symptoms indicating the existence of proliferated inflammatory material, which subsequently produces by simple pressure destruction of the vitality of the bone. Those morbid phenomena in syphilis which involve bone or periosteum in the early part of the course of the disease are accompanied by relatively more prominent objective phenomena than those late lesions which are now under consideration; yet, at the same time, they are rarely followed by caries or necrosis. These processes, it seems, are reserved for the late secondary or sequelar period on the disease. Thus it will be seen that, although the local process is more severe in the early cases, destruction of the vitality of the bone is not so likely to occur. There is a marked difference between the nodes and diffuse subperiosteal swellings of early syphilis, and the condition of the bone and periosteum which precedes necrosis *en masse*, or, for that matter, caries in the late stage of the disease. In addition to the disproportion between the degree of destruction of bone and the objective phenomena preceding such destruction, another point worthy of comment is the fact that syphilis possesses the power of dissecting out definite portions of osseous tissue, apparently by cutting off their nutritive supply in a manner as clearly as it could be done by the knife. Thus I have specimens in my possession of the intermaxillary bone, portions of the alveolar process of the maxilla, the palatal and nasal processes of the superior maxillary, the malar and ossæ nasi, which became necrosed, loosened, and were removed from cases of late syphilis. These fragments of bone present as natural a conformation in many instances as in their healthy condition.

As far as I have been able to observe, there seems to be a special predilection in cases of late syphilis for those parts supplied by the fifth nerve, indicating that the portion of the sympathetic system which presides over these parts is particularly sensitive to the syphilitic impression.

I have found in some instances the tendency to unilateral destruction of osseous tissue particularly marked. Thus the palatal process of the superior maxilla upon one side, or superior alveolus upon one side, may necrose and give way without the corresponding portion of bone becoming affected. Indeed, it seems that in most instances in which necrosis attacks the bones of the face, it is impossible to check the process until the line of demarkation represented by the anatomical outline of the affected bone has been reached. The peculiar manner in which one- half of a structure may be dissected away by the sequelar lesions of syphilis, is exemplified by a case of syphiloma of the tongue which recently came under my observation in which the sloughing of the organ was limited by the raphe. This case subsequently went on to malignant transformation. I removed the tongue by the Galvano-cautery, the disease recurred, and the patient died of hæmorrhage several months later.*

I have had several cases recently in which that portion of the superior maxilla corresponding to the inter-maxillary bone was dissected out by the syphilitic process with the resultant loss of the incisor teeth, the remainder of the jaw remaining intact. There appears to be a peculiar predilection of late syphilis for this portion of jaw. I have seen several cases in which caries occurred in this situation with a consequent loss of one or more perfectly healthy teeth: These cases have appeared to me to be so characteristic that I have come to regard loss of the incisor teeth without any apparent cause as almost positive evidence of syphilis.

An interesting case illustrating the unilateral limitation of some late lesions of syphilis came under my observation recently. This was a gentleman who had an obscure history of syphilis, dating some years back. Several weeks before coming under my observation, ulceration began at the roots of the molar teeth upon one side and extended outward upon the palate. When I first saw the case the ulceration had extended outwards upon the hard palate for about ¾ of an inch and forward to the median line, where it abruptly stopped. The appearance of the ulceration was quite typical. There was no disease of the teeth or jaws to account for it. Healing was quite rapid under appropriate anti-syphilitic treatment.

Another interesting case of somewhat similar character is that of a gentleman who had

* Reported to Miss. Valley Med. Association—Medical Record, Oct. 26th, 1889.

syphilis seven or eight years ago. For the last three or four years he has had occasional symptoms of the disease. A few months since ulceration occurred about the roots of the upper incisor teeth and was attended with slight caries of the intermaxillary bone. The process was checked by appropriate treatment, the teeth, which were loosened, finally becoming perfectly solid. About six or eight weeks after the ulceration was healed the patient consulted me for supra- and infra-orbital neuralgia and hemicrania. It yielded readily to iodide of potassium in large doses. Within a few days the patient has again consulted me for paræsthesia of the right side of the face, which he noticed for the first time while being shaved. His face having been excessively tender previously, he very speedily noticed a lack of sensibility under the razor. Associated with the paræsthesia there is obscure pain which he locates back of the eyeball. The *ensemble* of symptoms in this case points to central disturbance and evidence a manifest predilection of the sequelar lesion for the fifth cranial nerve.

The association of obstinate tubercular syphilides with nervous syphilis is well known. It seems that the danger of involvement of the central nervous system is directly proportionate to that of severe syphilides.

In considering the tropho-neurotic character of the late lesions of syphilis, I do not ignore the fact that syphilis may act directly upon the nervous system in several different ways:

1. By the direct effect of syphilitic deposit upon the nerve cells or fibres, or membranes of the brain and spinal cord:

2. By changes in the membranous envelopes of the brain and spinal cord:

3. By deposits in and about the blood vessels which induce circulatory disturbances:

4. By a proliferation and condensation of connective tissue which remains after the syphilitic material *per se* has been removed.

There is probably a difference in the late and early forms of syphilitic lesion, in the manner in which the tropho-neurotic element is brought about. Thus it may be due, in the first instance, to a direct impression of the syphilitic poison upon the sympathetic nervous system. Secondly, to direct pressure upon the nervous structures. Thirdly, to a disturbance of function and nutrition of the nervous structures incidental to interference with blood supply.

It is probable that mercury acts upon the nervous system in very much the same manner as does syphilis. It is very difficult to differentiate late syphilitic lesions of the bones and of the mucous membranes from those directly due to the action of mercury. That mercury exerts a powerful effect upon the sympathetic nervous system is, it seems to me, shown conclusively by the phenomena of ptyalism which cannot be accounted for solely upon the theory of the production of irritation. The well known power of mercury over the secretions is probably due to its influence upon the sympathetic ganglia. When the injurious action of mercury is superadded to syphilis, there is a more marked tendency to tropho-neurotic phenomena than in well treated cases of the disease. Indeed, the excessive use of mercury often seems to determine the predilection of late syphilis for the bones of the head and face. It is quite as capable of producing necrosis or destructive ulceration of these parts, as is syphilis *per se*.

Positive demonstration of the dependence of the phenomena which I have outlined, upon nervous disturbance, is of course difficult, but the inferences which I have drawn appear to me to be logical.

In considering the question of trophic disturbances in relation to their destructive syphilitic processes, it is well to remember the familiar physiological experiment of section of the sympathetic in the neck of the rabbit. The same experiment is also interesting as bearing upon the faucial congestion of early syphilis. The reddening of the ear of the rabbit, the inflammation and sloughing of the cornea incidental to section of the sympathetic, are certainly suggestive. To carry the analogy of this physiological demonstration a little further, I would call attention to the serious corneal trouble which sometimes results from herpes frontalis seu orbicularis.

The tropho-neurotic influence of syphilis appears to be chiefly manifested in the peripheral structures of the body. Thus in late syphilis we have a tendency to brittleness and other morbid changes of the finger and toe nails. There is falling of the hair due to intrinsic perversion of vitality of the hair follicle, and differing from the alopecia areata of the early stages of the disease. The most important evidences of the tropho-neurotic influence of syphilis is the mal-nutrition of the teeth observed in syphilitic children. In my opinion syphilis may impress several generations of individuals with a tendency to tropho-neurotic changes of the glands, teeth, nails, etc., long after syphilis *per se* has been eradicated. It is my opinion that scrofula is frequently the result of this neurotic tendency to tropho-neurotic disturbance.

In a paper read before the American Medical Association, June 12th, 1888, I directed attention to the close similarity which exists between so-called canker of the oral cavity and certain syphilitic lesions. This resemblance I believe to be due to the fact that both are the result of tropho-neurotic disturbances, in one case produced by syphilis, or syphilis and mercury combined, and in the other to general

perversion of nutrition, or more frequently disturbances of the digestive apparatus.

Dr. Hadden* reports four cases which I believe to be due to tropho-neurotic disturbance. These cases were absolutely resistant to treatment and consisted of a sensation of intense unbearable burning of the tongue, and often of the lips and roof of the mouth. In two of these cases there were certain objective symptoms. In one, a woman of 35, there was a small epulis; in another, a woman of 75, who was emotional and nervous, and had for many years suffered from nettle rash, the gums finally became involved and the teeth turned black and decayed.

CHICAGO, ILLINOIS.

NEURASTHENIA IN ITS RELATION TO MENSTURAL PAIN.

WM. L. TAYLOR, M. D.†

The subject of menstrual pain has been so written about and discussed that there remain no points of bright and shining newness to elucidate. I am afraid though that, with all the richness of literature, the growing tendency is to totally ignore the nerve element and to solely consider the uterus as the first and exciting factor. It is well to bear in mind that the physiological process, or act of menstruation, differs in no wise from other physiological acts in respect to its dependence for regular and painless performance upon a well and evenly balanced nerve force. Let this nerve influence be perverted, and we have dysmenorrhœa with partial amenorrhœa, or, possibly menorrhagia, and still the uterus, *per se*, may be without a vestige of fault.

Disturbances of this class are continually occurring and, whilst a truly and normal menstrual discharge should be a free, painless monthly flow, we rarely see such perfect physiological action. This is hardly to be wondered at when we recall the important part which the organs of generation play in the economy of woman and their active existence between puberty—their functional birth,—and menopause—their death.

Pain is the most frequent departure from the plane of health, and simple pelvic distress, or acute agony, mark the extremes of discomfort, incapacitating only for more active duties, or transforming our patient into a suffering, hysterical invalid, not only for the four or five days of menstrual flux, but often, with diminished severity, during the intermenstrual period. Vagaries of mind and suffering of body go hand-in-hand, increasing in severity as the patient approaches the age when increased sexual activity demands increased nerve control and blood supply. How much of this loss of nerve control is due to the menstrual pain, and to what extent the pain is the direct result of vaso-motor disturbance, is one of the difficult problems frequently made but little clearer even by a local examination. A vast number of our so-called dysmenorrhœic girls need more treatment for exhausted nerves and impoverished blood-vessels, than for uterine or ovarian lesions. They have the back-aches, the head-aches, the side-aches and pelvic-aches of nerve-tire, the pelvic organs being dragged as willing factors into this battle of nerves. These girls reach pubescence tall, thin, book-crammed wrecks overwrought mentally without a single well-developed muscle. Theoretically the uterus and ovaries are expected to open up the menstrual life in a perfectly physiological manner as much as though they were not part and parcel of the general physical wreck. Practically they do no such thing; they wait for increased development, and at best (or worst) become, like other impoverished organs, fitful and irregular in action, and the foci of pain. It is an easy matter to place upon these local exhibitions of a general lesion a wrong valuation. They are positive indications of pelvic trouble of primary or secondary import, and the patient undergoes an examination by the vagina. What do we find? An illy-developed cervix and uterus, with the body anteflexed. There is some erosion of the cervix, with more or less catarrhal discharge.* Both ovaries are tender, and perhaps enlarged sufficiently to be outlined. Then you introduce the sound to the internal os, and there is evidence of stricture with increased sensibility. By the examination without ether there is nothing which would positively distinguish, in this condition, the truly spasmodic stenosis from that of permanent narrowing, though in the nervous cases there is generally—or I might say, always—more tenderness at the constricted point. Under ether, when this stenosis disappears and the canal becomes quite patulous, there is positive proof of a uterine and ovarian exhibition of a neurasthenic condition.

But you say: "Is it necessary to examine every virgin who suffers at her monthly periods? Are there no closely drawn points in symptomatology by which the truly surgical cases may be separated from the purely nervous ones?" That there are these two classes of cases we cannot but admit, and the symptoms in one differ widely from those of the other.

* The Lancet, London, January 25th, 1890.

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*And, by the way, there will be this same flabby catarrhal condition of the throat and nose, not due to the oöphoralgia and uterine catarrh, nor they to it, but all sequelæ of one cause.

Let me cite the following history from my case book:

Annie M., æt. 18 years: single. Puberty at 13½ years. Menstrual discharge was irregular in its appearance until after 14 years of age, when it became regular and not painful. Since the age of 16 years, there has been gradually increasing pain at every period, or, more truly speaking, commencing two or three days before the period, and diminishing in severity as the flow becomes established. This pain is more or less continuous—is not intermittent; it is a throbbing pain, and seems to have its points of greatest severity in the ovarian regions, extending to the uterus and down the inside of the thighs. Frequently this is accompanied by nausea and vomiting. The menstrual discharge is not clotted, and is somewhat higher in color than normal. The ovaries are tender by abdominal palpation, and the spinal hysterical spots are well-marked. This is the physical history. Now is there a social defect which will bear a causative relation to this condition?

At the age of puberty our patient was a girl of about average strength, living in a small town. When hardly 16 years of age she was sent to a city school, where she remained about 9 months in the year. Here was undoubtedly the disturbing factor. How frequently we find this same menstrual disturbance in girls who have left green fields and fresh air to overstudy, to work in factories, or stand behind counters! It is the menstrual oöphoralgia of nervous girls, of neurasthenia, of nerve-tire, and is to be relieved by tonics, good food and fresh air, and increased by vaginal examinations and worse than useless uterine interference.

My first effort at treatment would be to relieve my patient of all undue mental and physical strain. The bowels are generally constipated, and should be kept just slightly relaxed. The skin is dry and almost bloodless, the hands and feet are cold, with hot head and dull eyes. Sponge baths followed by thorough friction soon start a more active peripheral circulation. For the first few weeks the medication consists of a mineral acid combined with a simple bitter as, perhaps, nux vomica.

When the bowels are normal in action, when the skin is less dry and the tongue is clean, then I give iron in such combination as suits the case in point.

If there is inter-menstrual ovarian pain, I know of no better agent for its immediate relief than a current of Galvanism passed from the sacral region through to either ovarian region. This has never failed me, except in such cases as where the ovaries have undergone great interstitial change.

Where there is neurasthenia acting as first cause, a general tonic treatment will effect a cure without surgical interference, but there is a large class of patients in whom this nervous, broken-down condition is the sequel of a primary uterine lesion.

Let me cite now, in contradiction to our case of neurasthenia, one in which the history is directly that of obstruction:

Mary Y., æt. 36, married, sterile. Puberty at age of 14. Always had pain at menstrual periods. This pain has increased since marriage. It commences a few hours before the appearance of the flow and continues through the whole period, It is markedly a "come-and-go" pain—expulsive in character. The discharge comes in gushes preceded by pain and is generally clouded.

In such a case as this we are most apt to find a rigid stenosis at the internal os. The intermittent character of the pain would of necessity call our attention to the uterus in its expulsive efforts to expel its contents. Unlike the small ill-developed uterus of our neurasthenic patient, it is even larger than normal with this congenital narrowing of the cervix. If there are nerve phenomena and hyperæmic ovaries, they are secondary to the uterine lesion and will not disappear until a free outlet to the menstrual flow is established.

A cervical stenosis, non-spasmodic in character is always the primary trouble, and it is as impossible to cure such a condition by rest, treatment and tonics as to relieve a neurasthenic dysmenorrhœa by dilatation alone.

Bear in mind, then, the existence of a dual source of menstrual pain: In one the neurasthenic condition as a primary condition; in the other a primary surgical narrowing with many reflex conditions which disappear completely by local treatment.

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THE PHYSIOLOGICAL ACTION OF ALCOHOL.

BY PROFESSOR JULES SIMON.*

There still exists in the minds of many medical men, considerable uncertainty regarding the indications and contra-indications for alcohol in therapeutics. As I believe that alcohol has an important place in the treatment of disease, I shall speak of an incident in my own experience which shows the utility of the drug in acute inflammations.

In 1865 I had the care of a gentleman, from South America, aged 45 years, suffering from an intense broncho-pneumonia accompanied by a violent nervous and inflammatory reaction. I first made trial of contra-stimulants and revulsives, but despite all my efforts he kept getting worse; and in a few days there supervened an extreme oppression caused by the spreading congestion, an abundant catarrhal

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secretion, and a local and general atony of the forces. The mucosities which the patient was unable to expel accumulated as far as the upper part of the bronchial tubes, and produced frightful trachial râles which could be heard at a distance. It occurred to me here was a clear indication for alcoholic stimulants, but owing to my adhesion to traditional dogmas, I dared not trust my own judgment, and so asked counsel of my friend Jaccoud, who urged the free administration of brandy. It was then 8 o'clock in the morning. We began giving the stimulant, and at noon, to my great gratification, I found my patient sitting up in bed, breathing more freely, and with a better color in his face; from this time forth convalescence was established.

Since then, I have freely given wine, brandy and other alcoholics to those affected with capillary bronchitis and pneumonia, and in the majority of cases with most gratifying results.

Of the preparations of alcohol, not pharmaceutical, most suitable, stand first, the distilled liquors, next the different wines (those of the South of France, Malaga, Bordeaux and Champagne), and last, beer.

Among the spirits in common use are some that are good, others that are middling, and others that are most execrable. Genuine liquors, containing only *ethyl* alcohol, are scarce. The liquors drank by the masses are made from beets, potatoes, grain, etc., to which are artificially added ethers, empyreumatic oils and coloring matters. All these foreign substances, far from being inoffensive, are responsible for most of the pernicious effects which attend the use of alcoholic beverages. Now a larger part of the liquors in daily use, such as Grand Chartreuse, Curacao, etc., are fabricated with alcohols which contain fusel oil and other impurities; hence the importance of pure liquors in medicine, especially when the stimulant is to be given a long time. Therefore be sure of the quality of the brandy and whisky you prescribe, especially for children; and as a rule, the older the liquor the better. The natural wines, particularly those of Malaga and Bordeaux, are generally easily taken and readily absorbed. Unfortunately, it is the case that almost always the wines are adulterated; that is to say, a wine rich in alcohol is mixed with a colored wine in such proportions that the mixture has an agreeable taste and a nice hue; and at other times, dealers add a more or less impure alcohol to diluted wines. The alcohols generally employed are potato spirits, coming for the most part from Sweden, Norway and Holland. This adulteration is bad every way, for the alcohol mixes with the wine, but not in that combination which is natural. It is a sad fact that almost all the wines of France, especially those sold miscellaneously in shops or intended for exportation, are adulterated with vile potato spirits.

Champagne deserves a special mention. The great quantity of carbonic acid which it contains in solution, renders it capable of responding more particularly to certain indications.

Beer should be made with hops and fermented barley, but is often sophisticated with all sorts of bitter substances, such as chiretta, columbo, cocculus Indicus, false angustura, etc. The latter is employed considerably in England in the fabrication of pale ale, and containing a little strychnine, imparts a preservative property to the beer, and also renders it useful in some dyspepsias.

The medicinal alcoholic tinctures, and the cinchona wines, are too often made with spirits and wines no better than those above mentioned. The calisaya and quinine wines are rich in alcohol, and hence should be prescribed with caution to children. There is even danger of causing irritation of the stomach by the prolonged use of such preparations. Dyspeptic ailments constantly attend the use of alcohol when given in too large doses or in too concentrated a form.

Few questions have been studied more thoroughly than that of the physiological action of alcohol. And first of all, is alcohol a food?

At a certain epoch, there seemed to be no doubt about it. In the view of Liebig, Bouchardat, Sandras, and many others, alcohol is a food, and particularly a respiratory food. In order that a substance may deserve the name of food, it must be assimilated, *i. e.*, transformed in the organism, utilized in the accomplishment of the different functions, and fixed under divers forms in the anatomical elements. But in 1860, Lallemand, Perrin, and Duroy, denied this attribute, as in their experiments they found alcohol unchanged in the different tissues, in the different humors, in the brain, blood, urine, and perspiration, while nowhere could they find the intermediate products due to oxydation, such as aldehyd, acetic acid, and oxalic acid. From these facts they concluded that alcohol passes unaltered through the organism, and is eliminated as alcohol only by the secretions.

Soon, however, contradictory experiments, notably those of Schulinus, Dupré, Anstie, Albertoni, and Lussana, proved that if it be true that a part of the alcohol absorbed may be found unchanged in the different solids or liquids of the economy, there is also a part which distillation is incapable of recovering because it no longer exists, having been transformed—burned; and in proportion as the means of research have been more delicate, and precise, it has been discovered that this quantity is still greater, and that it must exceed that which remains unchanged in the tissues; in fact, no alcohol escapes decomposition

except when the quantity ingested exceeds a certain limit. It seems, then, proved that alcohol is just what Liebig claims, viz., an *aliment*, giving rise by its oxydation to carbonic acid and water, after having passed through the intermediate stages, aldehyd, acetic acid, and oxalic acid. It is, however, premature still to affirm (with Liebig) that alcohol is a respiratory food exclusively.

When alcohol is ingested it is absorbed by the mucous membranes of the stomach and small intestine. The stomach alone takes it up when the doses are small, but when large, a portion passes into the small intestine and is absorbed. Rectal lavements containing alcohol readily pass into the circulation, which shows the power of absorption possessed by the mucous membrane.

Serous membranes also have a great power of absorption, even greater than that of mucous membranes. Moreover, vapors of alcohol easily enter the blood through the pulmonary mucous membrane, as experimentation has shown, and has been proved by the fact that workmen often get drunk in emptying liquors into casks from a vat.

In moderate doses alcohol is a powerful stimulant of the digestive functions. In larger doses it disturbs and even arrests these functions. It has a very great affinity for water, and if given in small quantity is readily diluted in the stomach, loses all its irritant properties, and favorably stimulates the work of digestion. It excites, besides, the contractions of the gastric muscular fibres, as Claude Bernard has shown. Taken in large quantity, however, it fails to be sufficiently diluted by the gastric fluids, and irritates the mucosa so far as to produce ecchymoses; hence indigestions, dyspepsias and chronic gastritis ensue, according to the doses and degree of concentration or dilution of the alcohol ingested, and the prolongation of the habit.

In its action on the circulation it has the same opposite effects according to the quantity which is absorbed. When taken in moderate doses there is an acceleration of the pulse which becomes fuller and less compressible; there is, at the same time, dilatation of the peripheral vessels, animation of the visage, and a sensation of heat of the skin. On the other hand, when taken in large doses, the pulse is slowed, becemes small and hard, while the extremities are cold. It is when taken in large doses that alcohol may be found unchanged in the blood, when its presence entails manifest alterations of the globules, which become fatty or albuminous, as the experiments of Magnus Huss have shown. According to Brouardel, the globules thus altered are no longer capable of fixing oxygen, the oxygenization of the blood is compromised, and asphyxia may be the consequence.

The respiratory movements are also accelerated under the influence of small doses of alcohol; while under the influence of large they are slowed. But even when the respiration is most active there is a diminution in the exhalation of carbonic acid.

On the urinary functions, alcohol has an action which the physician should not overlook, and which in certain circumstances constitutes a contra-indication to its administration. It has, in fact, the property of diminishing the quantity of urea, and the other solid principles of the urine.

The action of alcohol on the nervous system is one of the points of its physiological history which have been most studied. Here, also, we have widely different effects, according to the doses administered. In moderate doses, it stimulates the intellectual faculties. It produces a cerebral and muscular excitation, prevents or disturbs sleep, and dissipates fatigue. In larger doses, it causes physical and mental torpor, oppresses and obscures the intelligence, and renders every effort of attention painful; ideas lose their logical connection, and are expressed with difficulty; speech is embarrassed. A step further, and delirium supervenes, in all its degrees, under all its forms, even to mania. In fact, the condition is one of more or less complete intoxication. The diminution of motility explains the lessened gravity of falls and the more easy reduction of dislocations in drunken people. Sensibility is at the same time diminished and even abolished. There is, then, a striking similarity between the action of alcohol and that of chloroform and other anæsthetics.

Physiologists have not limited themselves to the consideration of these functional manifestations of the nerve centres under the influence of alcohol; they have sought to penetrate to the immediate cause and discover the intimate modifications of the centres to which these manifestations are subordinate. They have shown that the nerve centres are impressed in two different ways, first, directly by the alcohol, which is brought by the circulating blood in immediate contact with the nervous elements which become thus impregnated by it, then by the intermediation of the circulatory modifications of which I have spoken, and from which the brain does not escape; I mean that its vessels dilate and it is congested in the first period, and that then it is anæmiated in proportion as the alcohol is absorbed in larger quantity. I ought to say, moreover, that the action of alcohol is not exercised equally on the different nerve centres; that the encephalic centres feel it in the highest degree, while the spinal cord is impressed later and more slightly.

It has long been believed (and the common people believe it still) that alcohol increases

the heat of the body; but it is not so. Numerous experiments have, in fact, shown that it depresses the central temperature. This action is little marked in small doses, amounting to seven-tenths of a degree only; but it is more and more marked as the doses become larger; and under massive doses there is a fall of several degrees, especially if the external cold adds its influence to that of the alcohol. Moreover, this antithermic action is more pronounced in fever patients that in healthy persons.

Hammond noticed in experiments on himself, that when he imbibed a quantity of alcohol equal to about two ounces a day, there was a gradual augmentation of the weight of the body, and that less food was needed to repair the waste; this conclusion accords with other experiments, and justifies the title of food which has long been accorded to alcohol.

Such are the considerations which I desired to present relative to the physiological action of alcohol. It will be seen how complex in appearance is this action, how multiple and varied are its effects on the economy. At the same time, an attentive comparison of these different modes of action shows that between these divers modalties, entirely conforming to the laws of biology, there is a certain connection.

PARIS, FRANCE.

CLINICAL NOTES.

THREE CASES OF SYPHILITIC BRIGHT'S DISEASE.

BY DRS. E. LE CORCHE AND CHARLES TALAMON.

CASE 1.—*Syphilis of eighteen years' standing, Bright's disease with large white indurated kidneys and amyloid degeneration.*—Male, aged 40. Typhoid fever in infancy; indurated chancre at the age of twenty-two. Syphilis was treated several years by mercury and iodide of potash. The albuminuria was not noticed till a month ago; for three months the legs had been swollen, and for six or seven there had been nocturnal polyuria. No symptoms complained of before that time. He came into the hospital very œdematous; the anasarca occupied the lower limbs, extending to the abdomen. No œdema of face, but there was the characteristic pale, waxy hue of countenance. No external manifestations of syphilis visible; no hypertrophy of heart; but anorexia, vomiting, diarrhœa, which had existed a month. Urine almost colorless, two quarts per day, containing three grammes per one thousand of albumen.

The quantity of urine, in the course of several days, fell to a pint in the twenty-four hours, but continued to be pale and colorless. At the same time sub-delirium and somnolence were present. The patient died uræmic fifteen days after entering the hospital.

On autopsy the kidneys were found voluminous and heavy, and of the large, hard, white variety. The right was a little smaller than the left, weighing only 170 grammes, against 220 grammes for the latter. The capsule was slightly adherent; surface smooth without granulations; color yellowish-white, streaked with a few dilated veins; cortex thickened and presenting the same coloration with here and there a great number of small refractive points. The consistency was firm; the pyramids of a violacious color.

Heart normal; lungs œdematous; liver and spleen somewhat hypertrophied.

No intestinal ulcerations; vessels injected in places; in other parts, the mucous membrane pale.

The microscope showed amyloid degeneration of the glomeruli and renal arteries, and in some regions of the walls of the tubules. The glomeruli, transformed into amyloid blocks, contained no embryonic elements. The walls of the degenerated arterioles were thickened, but there was no endarteritis.

General thickening of the connective tissues. The canaliculi were separated by bands of fully formed connective tissue, infiltrated in many places with embryonic cells. This interstitial inflammation was diffused around glomeruli, tubules and arterioles. The epithelial lining of the tubes was everywhere destroyed or in process of destruction.

In the spleen and liver, the amyloid degeneration was limited to the small arteries. In the small intestine, it occupied all the arterioles of the cellular and muscular coat. The mucous membrane was infiltrated with innumerable round cells.

CASE 2.—*Syphilis of fifteen years standing.*—"Male, aged 37 years; indurated chancre at the age of 22. The patient has characteristic tibiæ, with jagged anterior borders, and internal surfaces rough and swollen."

At the age of 30 years, without known cause, without having been chilled, had general anasarca. He remained three years ill; face and eyes swollen in the morning—feet and ankles œdematous in the evening. The œdema having invaded the thighs and scrotum, he entered the hospital. Albumen was then found in the urine. After eight months, he left the hospital cured of œdema, and since that time (two and a half years) there has been no swelling of the face or of the feet. Considerable polyuria; was obliged to get up several times in the night to urinate.

A month ago he began to suffer from pain in the right side, chills, dyspnœa; was treated for pleurisy. From that time the urine was deficient in quantity. Since three weeks, an abundant diarrhœa—seven or eight stools in the

twenty-four hours—supervened, along with dysphagia—mouth and throat painful and dry.

His face is of the typical waxy paleness, without œdema. Some slight pitting over internal aspect of tibiæ; both tibiæ hypertrophied, voluminous, with dentelated crest. Beatings of the heart a little irregular, but no hypertrophy of that organ. *Bruit de galop* on the left of the median line, about the middle of the cardiac region. Urine scanty, giving an abundant precipitate of albumen. Several ulcerations scattered over the velum pendulum. The patient is in a state of semi-torpor; takes no notice of anything.

The diarrhœa persisted; the somnolence became torpor of decidedly typhoid character; the urine remained scanty and highly albuminous. Death ten days after admission.

On autopsy, the lungs were observed to be sound; nothing in the pericardium; no hypertrophy of the heart; no valvular or aortic lesions.

The kidneys were of almost normal size, the right smaller than the left; capsule a little thickened and adherent; no cysts; surface smooth in general, but presenting a few linear furrows; color, white streaked with red. On section, the yellowish-white color predominated, and occupied all the cortical substance, which was thickened; kidney cut with difficulty. The left kidney presented a like aspect; was indurated, nodulated, but with no granulations; these were like adhesions of the capsule, the same whitish coloration. Pelvis of kidney and bladder normal.

The liver was large, hard, and firm, of uniform clear red color. It was also notably augmented in volume, and very heavy. Spleen of normal size, a little indurated.

The microscopic examination of the kidneys showed amyloid degeneration of the glomeruli and of most of the arterioles; advanced interstitial inflammation in certain places, more recent in others; canaliculi full of large granular cells and drops of fat.

Case 3.—Syphilis of male aged 36 years; indurated chancre seventeen years ago; prolonged treatment by mercury and iodide of potassium; says he had a new chancre three years since. On the front and internal aspect of the legs are numerous pearly cicatrices, deep and depressed, dating back seven years, at which time he took iodide of potassium for several months. A year ago, for the first time had œdema of the lower limbs, lasting a month. The last six months has been characterized by abundant polyuria, obliging him to rise in the night to urinate; and for the past three weeks, continual oppression and dyspnœa, which obliged him to enter the hospital.

Face pale, earthy, with œdema of the right side; no œdema of the legs. The patient complains of extreme oppression. All over the chest are râles, sonorous, crepitant and subcrepitant. The heart appears to be voluminous, but the beatings are feeble; the pulse small. Urine pale, colorless, small in quantity; the past fortnight scarcely a quart a day. Albumen 3:1000.

The oppression persisted; the quantity of urine failed to 16 ounces per 24 hours, and the patient succumbed on the sixth day after admission.

No trace of subcutaneous œdema was found on autopsy and but little hydrothorax. The lungs were voluminous, emphysematous, œdematous, and congested. On section, there flowed an abundant spurious serosity.

Pericardium normal; heart hypertrophied, affecting particularly the left ventricle, whose walls are 3 c. m. in thickness. Right ventricle also hypertrophied but without dilatation; its walls eight to ten millimetres in thickness. Total weight of organ, 480 grains.

The kidneys small, atrophied; weight 120 to 130 grammes. Capsule slightly thickened and adherent, surface finely granular, of yellowish white color, streaked with red points and lines; the white parts formed little granulations or patches of considerable extent. Consistence firm on sections; cortical substance atrophied to the base of the pyramids.

Liver voluminous, weight over 2000 grammes, of reddish color; spleen large, of lively red hue, a little indurated, weight 270 grammes.

The microscope showed amyloid degeneration of the glomeruli and renal arterioles. The most of the glomeruli were atrophied and completely infiltrated with amyloid matter; in a few only was the vascular tuft recognizable, and the amylosis involved only a part of the vessels. No endarteritis of the arterioles whose walls were confounded in a homogeneous mass, colored mahogany brown by iodine. The lesions of the kidney were those of advanced atrophic nephritis; in places masses of tubuli which had preserved their normal dimensions and their epithelial lining; the cells appeared only less voluminous than in the normal state. These groups of normal canaliculi were surrounded by extensive regions where the atrophied flattened tubuli were disseminated in the meshes of a fibroid connective tissue. Of these atrophied tubules some had a lining of cells almost completely flattened, others had their interior filled with colloid cylinders. The fibroid tissue which separated and enveloped them was very thick, and now and then contained rows of embryonic cells.

In the spleen and kidney the same amyloid degeneration of the arterioles, without other lesions of the surrounding cellular tissue was noted.

In the heart a commencing amyloid degeneration, of the arteries, limited, under the form of little points colored red or mahogany brown

in the middle coat. No thickening of the connective tissue.

PARIS, FRANCE.

THE RELATIVE VALUES OF PEPSINS.

Dr. H. Arnott, Registrar, Medical Department Western University, London, Ontario, writes:

"I have long been interested in pepsins and have frequently tested several of those in the market, but my last experiment gave such extraordinary results that I thought I would place them before my professional brethren. The test used was that recommended by Parke, Davis & Co. I first boiled a number of eggs until they were quite hard, and after removing the shells and separating the yelks, I pressed the whites through a fine seive so as to thoroughly and equally divide it. Of this five hundred grains were weighed and put into a bottle along with eleven ounces of water and forty minims of dilute muriatic acid. Having prepared eight such bottles and brought them to a temperature of about 104° Far., they were ready for the pepsin to be tested. Into one I put a quarter grain of Parke, Davis & Co.'s prepared pepsin, into another five minims of their glycerol of pepsin, into another fifteen minims of their pepsin cordial, into another a quarter grain of Fairchild's pepsin, into another a quarter grain of Merck's pepsin, and into all the rest but one I put ten grains of some of the saccharated pepsins in the market. In every case, with the exception of Merck's, of which I could not procure, I was careful to select samples from original packages. The temperature was then maintained as nearly as possible at 104° for six hours. One bottle was left without any pepsin for purposes of comparison. To me the results were astonishing, and I must admit that I was considerably chagrined to find that a pepsin of which I had prescribed pounds, proved to be comparatively worthless. All of Parke, Davis & Co.'s preparations, as well as those of Fairchild's, completely dissolved the entire quantity of albumen, leaving the product as clear as water. Merck's dissolved about one-half the albumen. But the saccharated pepsins of which I used ten grains to a quarter of a grain of Parke, Davis Co.'s, dissolved so very little that I did not think it worth while to weigh the undissolved residue to determine the relative value.

"I tried another series of experiments, to see if pepsin which had grown old could retain its virtue, and for this purpose I used some of Parke, Davis & Co.'s pepsin from the bottom of an ounce bottle from which I had been dispensing, and a few grains had been left for about a year; and I was gratified to find that it had lost little, if any, of its original virtue.

"In this age of extensive—and often, I fear, unscrupulous—advertising, it behooves us to be on our guard, and I would respectfully urge my professional brethren who have not done so, to test in this simple manner the pepsin they use. I am not asserting that my experiments were very scientifically, or perhaps very accurately, carried out, as I was only doing it for my own information, but they were very convincing to me and to a number of medical gentlemen who saw them, and any gentleman can easily repeat them for himself.

"All that I wanted to know was, which was the most reliable pepsin in the market, and I found little to choose between Parke, Davis & Co.'s and Fairchild's. As far as my experiments went—and I repeated them three times—I believe that digestion was completed somewhat sooner by Parke, Davis & Co.'s. For myself, I must say that I was very much surprised to find that a tiny quarter-grain of pepsin could so completely digest five hundred grains of hard-boiled white of egg."

ABSCESS OF THE BREAST.

BY HAL C. WYMAN, M. S., M. D.*

These abscesses of the mammary gland are among the most painful and distressing infirmities incident to maternity. They have been the subject of study by the most simple as well as the most learned exponents of the healing art. Sometimes they recur so rapidly that the doctor gives up hope of doing much for their cure, and stands back and gives the old women and nurses full opportunity to employ their empirical resources. Skins of black cats freshly killed, and poultices of lamb's brains, are samples of the remedies which have been handed down by tradition from the remotest time in these cases. I might fill pages with the mere enumeration of the sundry and divers things which have been invoked to relieve the pain and cure the broken breast.

Here is a young woman with a baby three weeks old, and she has tried faithfully to nurse it, but without success. She comes to my clinic because her breast has steadily enlarged since she began having pain in it, and nothing she, her friends, or her physician could do for it has done any good.

It is the left breast. It is twice as large as the right one, which is supplying the baby with milk. It is reddish purple all around the nipple, which is deeply retracted into the substance of the gland. It feels hard and unyielding, and is very painful under pressure. She has tried to empty it with the breast pump, and has caused herself great pain thereby. She tells us there is no matter in it; that the doctor lanced it three days ago, but drew

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nothing but blood. She has had chills for the last week every day; sweats profusely; has a temperature of 102° F., and is very weak. We must not make any mistakes now. The chills, fever, history, and looks of the breast say there ought to be plenty of pus in it now. I can feel the deep fluctuation, which, with the fact just related, assures me that a deep and free incision will evacuate an abundance of pus. The cut can be made so quick that there is no need of an anæsthetic. Now the pus flows from the wound; and she feels better already. There is fully a pint of it. Now it flows again as I pull from the wound the fibrinous shreds which plug it. There is a good handful of them which have macerated off from the abscess walls, and which must be removed or the healing will be greatly prolonged. One reason why the mammary abscess is so apt to recur is, that the cut is not always made free enough to let the flakes of organized lymph which develop escape; they remain behind and fester, stirring up inflammation and pain until fluctuation is felt, when the knife is again used before the patient is well.

How will we treat the abscess and the patient now that it has been freely opened? We will order hop tea, a teacupful to be drank once in 3 hours as a gentle soothing tonic. We will wash the cavity perfectly clean with warm water, then we will inject it with: Impalpable powder of boracic acid, grains xx; iodoform, grains v; suspended in one ounce of warm water.

This is all that the case will need. Leave the wound open; the water will drain out leaving the boracic acid and iodoform in thorough contact with the abscess walls.

I never have had a relapse of mammary abscess since I began to treat them by:

1. Free incision:
2. Removal of plugs of lymph:
3. Washing with warm water:
4. Injection of powdered boracic acid, iodoform, and hot water.

The patient must begin to let the baby nurse just as soon as freedom from pain will permit. The function of the gland will be perfectly restored.

Sir Andrew Clark on Hypnotism.—It is a revival, he says, of the old Mesmerism, which had its day, and soon fell into desuetude. He believes: First, the phenomena may be referred to simple physiological conditions capable of explanation entirely without the introduction of another person with mysterious power: Second, the range of application in this matter is confined to neurotic people, and is capable of influencing essentially hysterical functional conditions: Third, the habitual practice of what is called hypnotism upon women is gravely injurious, both morally and intellectually, and: Lastly, he does not believe that any power such as that alleged to be possessed by any particular person out of the profession, is a genuine power which can ever be widely used for the benefit of mankind under any conditions.

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Editorial.

THE MICHIGAN STATE MEDICAL SOCIETY.

The twenty-fifth annual session of this Society was held in Grand Rapids on June 19th and 20th, and proved most successful both as regards attendance and work.

The reports of the several Committees evinced the organization was in a prosperous condition, and several new reforms were suggested looking to greater unity among medical men, and between the local societies and that of the State. The address of the President, Dr. Geo. E. Frothingham, also dwelt upon these matters. The results of the existing organization he illustrated by the work accomplished in establishing the State Board of Health, and by the work of the Society in relation to the encroachments of *isms* upon the State University. But while past achievements were gratifying, new and larger ones lay before the Society, to meet which more perfect organization is called for; only by such organization will the profession be able to protect itself and the people at large from those who would prostitute it to their own selfish ends.

In the address upon Practice of Medicine, Dr. W. E. Breakey, dwelt upon the obligations of the people and the profession in promoting medical science.

Dr. F. J. Groner in the address upon Surgery pointed out the causes of malpractice suits and proposed as remedies two things: "Properly qualified doctors, and: Doctors that always looked after the interests of their neighbors—Without medical experts, no malpractice suit would gain place in court."

In the address upon Gynæcology, Dr. J. N. Martin discussed the relations between constitutional conditions and diseases of the female genital organs.

A reception was tendered the Society at the Peninsular Club House on the evening of the 18th, and largely attended; and after the work of the evening of the 19th the Society was hospitably entertained by the Mayor of Grand Rapids at his residence.

The election of officers resulted in Dr. L. W. Bliss, of Saginaw, being chosen President; Dr. H. B. Baker, of Lansing, Dr. Welsh, of Grand Rapids, and Dr. Florence Husen and Dr. E. L. Shurley of Detroit, Vice-Presidents. Dr. C.W. Hitchcock, of Detroit, was made Secretary in place of Dr. Duffield, who refused the nomination, greatly to the regret of all, for to him much of the late effective working of the Society has been due; at all times he has given his best efforts unselfishly to the advancement of the profession through this body. Dr. Henry, of Detroit, was elected Treasurer. Saginaw was chosen as the next place of meeting.

Our *confrère* of the American Lancet, Dr. Connor, thinks the Society can be materially strengthened in many ways, and that a special effort would secure enrollment of at least two thousand physicians. But, as he says, "this can only be done when it shall be made to appear that each of these will receive more than will be lost by being absent from business for from two to three days." He also suggests a new Section be added,—the three now existing being overcrowded with work,—which shall embrace Ophthalmology, Otology, and Laryngology.

These are suggestions that, carried out, would aid greatly in promoting the influence of the Society. There is some talk also of making the Society a delegated body, with opportunity given to delegates to become permanent members; and though this is desirable also, it hardly seems practical considering the fact that nearly or quite one-half the counties of Michigan are without medical organizations, or the material from which such could be developed and sustained.

A notable feature of this session which we are glad to chronicle, was the cessation of those personal bickerings which have hitherto marred the meetings, and we trust the hatchet of discord has been permanently buried.

DANGERS OF EMBALMING.

Of late it has become quite fashionable among undertakers, and their more fashionable confrères the "funeral directors," to perform an operation upon the corpses delivered to their care which they dignify by the title of "embalming," though it is very far from being such. This operation is popular with the undertaker since it adds to his fees; with the public because they are led to believe that thereby the mortal clay of their deceased friends are longer preserved to them than could be done by any other method—though the facts are that ice is quite as efficient.

The ordinary mode of procedure is to inject into the abdomen of the corpse by means of a puncture, a quantity of fluid that is particularly rich in poisonous antiseptics; and subsequently the rectum, nose, and mouth are inundated with the same fluid. As might be imagined in cases demanding judicial and expert investigation, this "embalmment" is objectionable for many reasons. It is customary, as soon as life is extinct, and even before the body is cold, to turn it over to the undertaker, whose first act usually is to "embalm," even before washing and dressing. In a case of suspected poisoning, the injection of a solution of arsenious acid, arsenite of potash, or corrosive sublimate, which would be rapidly disseminated throughout the tissues, would seriously embarrass any judicial investigation; indeed, even though the chemist was able to definitely state the contents of the stomach contained mineral poison more than sufficient to extinguish life, and the physician could also state from pathological evidence such *had* procured death, the very fact that mineral poison had entered the cadaver from other sources, would defeat the ends of justice—no jury could be found, not composed exclusively of chemists and expert physicians, that would convict.

Just such a case arose recently in Massachusetts, and was reported by Medical Examiner Thos. M. Durrel, of Somerville, in the Boston Medical and Surgical Journal (June 5th). A young woman, aged 23, without any previous illness or mental depression, was taken suddenly with severe colicky pains in the stomach, vomiting, and burning in the epigastrium, and subsequently convulsions, dying in two hours or a little less after the first seizure. Six hours later the body was viewed by the Medical Examiner, but in the meantime it had been "embalmed" by an undertaker.

The autopsy, made the following morning, revealed the following conditions:

Body well nourished; no external marks of violence except small punctured wound two inches below and to the right of the umbilicus (made by undertaker); no signs of any erosions about the mouth. Section: Vessels of intestines and mesentery injected; right side of heart distended with dark fluid blood, valves and cavities normal; lungs heavy and filled with dark fluid blood; kidneys and liver injected; duodenum, mucous membrane red in spots; the remainder of the intestinal tract normal in appearance. The œsophagus and duodenum were ligated, and the stomach carefully removed. The organ was opened over a perfectly clean glass jar, and all the contents saved and sealed. The mucous membrane of the stomach was markedly injected, and was dotted over with minute white particles. The organ was placed in a clean glass jar and sealed. The other organs of the body were normal in appearance, with the exception of the brain, the vessels of which were filled with dark fluid blood. A portion of the liver, the kidneys, the stomach, the contents of the stomach, and the brain, were delivered to Dr. William B. Hills, at the Harvard Medical School, for chemical examination.

The report of the chemist was to the effect

that a relatively large amount of arsenious acid crystals were found in the stomach; also:

As the body had been "embalmed," the question of embalming fluid as an explanation of the arsenic in the stomach becomes an important one. There are only two ways by which the embalming fluid could have reached the interior of the stomach in this case: (1) By diffusion through the walls of the stomach; (2) by direct introduction into the stomach. The amount of arsenic in the contents of the stomach is, in my opinion, much too large to be explained on the former supposition. To be explained by the second supposition, the contents of the stomach must necessarily contain *all* the ingredients of the embalming fluid. I have made a partial analysis of the embalming fluid used in this case, and find that it contains arsenious acid and some compound of mercury, probably corrosive sublimate. The contents of the stomach, however, do not contain any mercury. Therefore the embalming fluid could not have been introduced directly into the stomach. Taking these facts in connection with the symptoms, it is my opinion that the arsenic was taken into the stomach before death, and that death was due to poisoning by arsenic.

That the case was one of poisoning certainly admits of little doubt. But upon the Medical Examiner reporting to the District Attorney and Judge, it was deemed undesirable to proceed further with the case, for various legal reasons, chief of which was the impossibility of convincing a jury that the arsenic was introduced into the stomach before death. Dr. Durell adds:

This is, I believe, only one of the many cases where the ends of justice are defeated, and all chance of detecting poisons (*i. e.*, the most common, arsenic and corrosive sublimate) rendered impossible by this process of "embalming."

Considering the evidence in this case and the frequency with which like cases may appear, it seems necessary that some legislation should be had upon the subject of "embalming." Where the old-time Coroners yet obtain in lieu of Medical Examiners, the danger is even greater, and the murderer has only to make the undertaker his innocent accomplice to destroy the sole evidence whereby his conviction could be attained.

In most States where cremation is authorized, it is expressly provided in the statutes that a competent examination shall be held of the body, and a certificate obtained, the obvious reason being the need of preventing the destruction of corpses of victims of criminal violence. It would now seem advisable that every death should be reported to some public officer, who should also be a competent medical man, and the undertaker enjoined from meddling with the corpse until a satisfactory permit had been obtained.

FOOD FOR THOUGHT.

That the status and relations of medical men between themselves, and also with the public at large, are not what they should be, every one acknowledges. At the recent session of the Ontario Medical Association, in Toronto, June 12th and 13th, the retiring President, Dr. Temple, in his address gave utterance to many trite truisms and suggested remedies therefore.

Among other matters, he suggested an attempt to secure such a modification of existing revenue laws as will permit the importation into Canada of all surgical instruments and appliances free of duty. Such a modification is desirable as many of the duties are so high as to be absolutely prohibitory.

With reference to reciprocal registration with Great Britain, Dr. Temple quoted Dr. Pyne, Registrar of the College of Physicians and Surgeons, to the effect that while the mother country desires its registered practitioners should be recognized in Canada, she was by no means willing to accept Canadian registration, therefore Canada had no option but to enforce the law of examination towards all outsiders, those from Great Britain included. Dr. Pyne, after fifteen years of local teaching, did not hesitate to say there was no country, not even England, in which there was a higher standard required of the medical practitioner than in Ontario; the diploma of the College of Physicians and Surgeons was a guarantee that its holder was fit to practice in any part of the world, since its system of examination and graduation was better than either in England or in the United States.

Alluding to suits for mal-practice, Dr. Temple pointed out existing laws were not only unfair, but onerous to medical men who were summoned in consequence thereof. He suggested the authorities be memorialized to have the laws so amended that in all suits for mal-practice, security for costs shall be given by the plaintiff before the commencement of action. It was scandalous that physicians should be obliged to pay not only their own costs but in a majority of cases the costs of the other side; to render keener the injustice under which they suffered, he had only to say that it was notorious that in many instances where these actions had been brought, the services of the physicians had been given gratuitously, because of the inability of the people to pay for them.

Another subject to which he called attention was the necessity of some united action being taken to rectify what was a positive injury to the profession, viz.: The practice of attending lodges and clubs and examining applicants for entrance into insurance and beneficiary societies at "cut rates," and disproportionate and unfair fees. This is a custom that is becoming wider spread every day, and that should certainly be condemned as lowering the profession, in that the man who followed it did himself great injustice in giving his services

for fees far below their value, while at the same time he deprived his fellow practioner of the means of making his living; further, he lowered his profession in the eyes of the public by allowing them to buy his services at their own prices. "Surely, if the laboring man by might and action can fix the price and value of his labor by declining to work unless he obtains what he believes he is worth to his employer, the medical profession ought to be able to maintain a uniform standard fee." This is a subject he would earnestly commend to the most careful consideration of this and other medical associations to see if some means cannot be devised to rectify the evil.

One of the objects of the Ontario Medical Association is to elevate the standard of the medical profession. The candidate for matriculation twenty years ago, was expected to read and write; and while the present examination is a fair test of a man's preliminary education, he hoped to live to see the day when students in medicine and law would be obliged to take the university degree, or an equivalent, before entering upon their purely professional studies. There could be no question of the after benefit of a thorough preliminary training. One reason why more members of the profession did not contribute to the medical press was the simple fact that they felt weak in their groundwork.

All of the foregoing is *apropos* to the profession of the United States. Many of the duties on surgical appliances are outrageous. For instance, an oil-immersion lens, an absolute necessity to every thorough medical microscopist, and that costs $30 in Vienna, is more than doubled in price by passing through the custom house.

The thoughts on reciprocity in medical examinations also open up a wide field demanding especial consideration. To-day the United States, and Michigan in particular, is the "dumping ground" of the incompetents of Canada, Great Britain, and Europe.

Mal-practice laws are as bad in the United States as in Canada. It is only a few weeks since a physician in Maine was sued at the instance of a legal firm, who undertook the case on speculation, and though a verdict was rendered justly for the defendant, he was mulcted some $2,000 in the way of costs.

The remarks regarding attendance upon societies, clubs, etc., are also timely. This is a growing evil everywhere, and inculcates not alone slovenly medical attendance, but even worse, since here the pharmacist is usually included with the physician. In New Orleans, where this is especially rampant, many physicians and pharmacists respectively contract to furnish medical attendance and medicines to a society, embracing one or two hundred families perhaps, at $30 per year. The result is, while the medical man and druggist alike receive a beggarly fee, neither have any real professional interest in the welfare of the patients; the slightest and most perfunctory attendance possible is given, and the poorest, and often substituted, drugs provided. The whole question is: Shall the physician rise to the full dignity of his profession, or shall he sink to a trade level? The latter is demoralizing, and has incidentally a direct bearing upon medical education, since to provide cheap doctors, cheap standards must be maintained.

Book Notices.

RHEUMATISM AND GOUT. F. Leroy Saterlee, M. D. Cloth square 12mo. pp. 84. Price 50 cents. Published by Geo. S. Davis, Detroit, Michigan.

This, one of the Leisure Library Series for 1890, is alike one of the most readable and practical works that has ever emanated from the press upon this subject. The author has the advantage of being able to speak from the standpoints of both teacher and patient, as he long suffered from an obstinately developed inherited rheumatic and gouty dyscrasia which threatened the early abandonment of his professiona career. In consequence, the volume is replete with the facts every practitioner desires most to understand, and the whys and wherefores thereof are concisely and plainly pointed out. It would be impossible to overpraise the volume.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. VI, No. 3; paper, 8vo., pp. 328. Price $1.00. Published by William Wood & Co., New York.

This is the terminal issue of the volume, and contains, besides title page and index, a voluminous table of contents.

The monographs embraced are: "Bronchial Asthma, its Causes, Pathology and treatment," by John C. Thorowgood, M. D., F. R. C. P.; "Convulsive Seizures," by J. Hughlings Jackson, M. D., F. R. C. P., and "Surgical Treatment of Diseases of the Brain," by Prof. Ernst von Bergmann, of Berlin. All are interesting papers and will well repay perusal.

PROTOPLASM AND LIFE. By Charles F. Cox, M. A. Flexible cloth, 12mo. pp. 67. Price 75 cents. Published by N. D. C. Hodges, New York.

Although this volume presents nothing radically new, and its first part is largely made up of extracts from and running comments upon the views of Lionel Beale, Tyndall, Huxley and others, it is of extreme interest and calculated to aid in the study of the Cell Theory. The second part is devoted to comparison and discussion of the most prominent views upon the "Spontaneous Generation Theory," so-called.

ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE—Medical Department of Union University: Proceedings of the Seventeenth Annual Meeting. Paper 8vo, pp. 24. Published by Burdick and Taylor, Albany, N. Y.

A new edition (the third) of the classical work, *Les Bactéries*, by MM. Cornil and Babès, has been published. (Paris: Félix Alcan.) It has also been much enlarged, and now forms two volumes, many new chapters and illustrations having been added.

APPARENT CANCEROUS TRANSFORMATION OF THE TONGUE. By G. Frank Lydston, M. D. 8 vo., pp. 16. Reprint from New York Medical Record of Oct. 26th, 1889.

ADDRESS BEFORE THE BUREAU OF OBSTETERICS, AMERICAN INSTITUTE. By T. Griswold Comstock, M. D. 12 mo, pp. 16.

Notes and News.

Love and the Doctor.—

The Doctor and the God of Love are much alike, they say;
Because their services are called upon both night and day.
Ah! there's a resemblance.
The one is very famous when he groweth gray and old,
The other reputation has in Springtime's youth, we're told.
Ah! there's a difference.

The Doctor and the God of Love are creatures very blind,
For in affections of the heart they make mistakes we find.
Ah! there's a resemblance.
The one is grave and dressed in black, with him a smile is rare.
The other laughs, ne'er dons his clothes but runs about all bare.
Ah! there's a difference.

The Doctor and the God of Love in danger all men seek,
They both console and sympathize and strive to heal the weak.
Ah! there's a resemblance.
The Doctor, when his fame is great, we all are bound to pay;
From Love, when all his sweets are gone, men silent shrink away.
Ah! there's a difference.

The Doctor and the God of Love give many worldlings strength.
They aid our troubles throughout life until death comes at length.
Ah! there's a resemblance.
The one, with good intentions, but simply wounds to cure.
The other, with caresses, gives wounds we can't endure.
Ah! there's a difference.

The Doctor and the God of Love, by looking in our eyes,
Can tell if soul be sick or well, can read the truth or lies.
Ah! there's the resemblance.
The Doctor only feels the pulse, pressing our hands apart;
But Love goes deeper into us and touches e'en the heart.
Ah! there's the difference.

In spite of all my ninety years I still indulge in rhyme.
Yet Love has flown away, my heart's the Doctor's every time.

—*Western Med. Reporter*, June 1890—M. Guitard.

Domestic Medicine in the Olden Time.—The old household recipe book is a well-known domestic institution, and one of some archæological interest, for it is now happily tending to become extinct. Even in the days of our grandfathers it had already degenerated from the important place it held in times when printed books were few and expensive, and when reverence was still paid to the pseudo-medical traditions handed down from one household oracle to another. Mr. Weddell, of Newcastle, appears to have come across a good specimen of this class, containing entries from the time of Queen Elizabeth to the middle of the last century, and proposes to issue a lithographic *fac simile* of this curious document. The method of reproduction is well chosen, since even as a historical study of handwriting the *fac simile* will be valuable. The subject matter would supply materials for a corresponding history of domestic medicine as practiced in noble families in the North of England, for though many of the formulæ were doubtless derived from printed books, the selection would at least show what kind of remedies were most popular. The modern reader will laugh and shudder by turns at the strange remedies which our ancestors swallowed with undoubting faith. The book would appear to have no title, and the editors have given it that of *Ye Apothecarie; His Booke*, which, if we may say so, does not seem altogether appropriate, and the orthography of which savours of the pseudo-archaic school. It is proposed to publish this curiosity of medical literature by subscription at 12s. 6d., and subscribers' names will be received by Mr. George Weddell, 20, West Grainger Street, Newcastle-on-Tyne, who will be pleased to show the original MS. to anyone interested.—*British Med. Jour.*, June 14th, 1890.

The Value of the Muzzle.—The statements of experts affording evidence of any real value, all go to show the supreme importance of the muzzle as an agent for the suppression of rabies. The official returns from Berlin, when taken in their entirety, prove the case for the muzzle up to the hilt. The outbreaks referred to were traced to laxity of the police regulations, caused by years of practical immunity from rabies following upon prolonged periods of muzzling. Above all, the report of the Select Committee is of the highest value, because, after having heard and examined all the witnesses for and against muzzling, they reported first and foremost that when rabies is prevalent the muzzle should be enforced. After so conclusive a verdict being delivered by those specially appointed to consider the evidence, it is difficult to understand the frame of mind of those who seek to re-try the case in the absence of the witnesses. If medical men do not necessarily understand the question of rabies in dogs, it may at least be assumed that editors of canine journals do, and one need only refer to the columns of the Stock Keeper and the Fanciers' Gazette during the past three years to see that the experience of Berlin is regarded as being particularly instructive, and that muzzling regulations in various parts of the world have been in the highest degree beneficial.—*British Med. Jour.*, June 14th, 1890.

Anilin Dyes in Medicine.—Since with the introduction of coloring agents as antiseptics a new source is indicated for remedial agents, we may expect to soon find other substances obtained from the same class brought forward as medicaments, the value of which may exceed that of the first found. We have now to note methylen blue, which is claimed to possess analgesic properties. Those who have a great admiration for blue blood should seize the present opportunity of obtaining it cheaply, since 2.8

grains in gelatin capsules, besides relieving of muscular or articular rheumatic pains, passes so rapidly into and through the circulatory system that an hour at the latest after the dose the urine is colored pale green, then bluish-green, and after four hours a fine aristocratic deep blue. As is always the case with remedies recommended by the discoverer, no unpleasant secondary effects were observed even after continued use. Drs. Ehrlich and Leppmann, who investigated the medicinal properties of the substance, tried at first to administer it as a hypodermic injection, but without success, as they could not get a sufficiently strong solution.—*Chemist and Druggist.*

Dr. O. W. Holmes, the doctor, poet, and philosopher, closes his little chat "Over the Teacups," in the March Atlantic Monthly, as follows:

CACOETHES SCRIBENDI.

If all the trees in all the woods were men,
And each and every blade of grass a pen;
If every leaf on every shrub and tree
Turned to a sheet of foolscap; every sea
Were changed to ink, and all earth's living tribes
Had nothing else to do but act as scribes,
And for ten thousand ages, day and night,
The human race should write, and write, and write
Till all the pens and paper were used up
And the huge inkstand was an empty cup,
Still would the scribblers clustered around the brink,
Call for more pens, more paper, and more ink.

The Medical Current feels that the *readers* should also be remembered, and suggests the following addenda:

Were human writers countless as the sand
That lies in masses on the desert land;
If they should write in books their thought;
If all the sky were into book-shelves wrought;
If every shelf were crowded full of books
With others strewn around in quiet nooks;
If human kind to labor gave no heed,
Had nothing else to do but read, and read,
And read, through countless æons—day and night—
Whate'er the race of scribblers chose to write;
Above this mass the wind would soar
And cry, more books to read, *more*, MORE and MORE.

Doctors as Cyclists.—The announcement of the formation of a bicycle club at Buffalo, consisting exclusively of medical practitioners, suggests a means of introducing this convenient but unorthodox means of conveyance. It is certainly not so dangerous as riding on horseback, to which a young qualified assistant, less accomplished as an equestrian than as a practitioner, last week owed his death, and it has the merit of being economical and well under control except down a steep hill in the dark without a brake. For metropolitan practice cycles are, perhaps, at a disadvantage, but our provincial brethren, whose paths lie along roads fringed with May blossom varied by patches of lilac and rhododendrons, might well follow the suggestion, and adopt the smooth and graceful motion of the iron steed, instead of the absurd and ungainly bumping of the average quadruped.

Labor Better than Luck.—It is not luck, but labor that makes the man. Luck is ever waiting for something to turn up. Labor, with keen eyes and strong will, always turns up something. Luck lies in bed and wishes the postman to bring him news of a legacy. Labor turns out at six, and with busy pen or ringing hammer, lays the foundation for a competence. Luck whines, labor whistles; luck relies on chance, labor on character; luck slips downward to self-indulgence; labor strives upward and aspires to independence.

Dr. von Nussbaum, the distinguished Professor of Surgery, theoretical and clinical, in the University of Munich, having at his own request been relieved on grounds of health from the special work of the clinical ward and operating theatre, has received the Order of Merit of St. Michael of the Second Class, in recognition of his services as a teacher and man of science. Dr. Ottmar Angerer has been promoted Ordinary Professor of Surgery in the Medical Faculty, and Interim Lecturer and Operator in Clinical Surgery.

Ingersoll on Vivisection.—An editorial in the Medical Record comments on the absurdity of Ingersoll's recent attack on vivisection, and charges him with grave ignorance of the subject he discusses. It is suggested that this celebrated agnostic confine himself to law and religion rather than discuss vivisection, of the beneficence of which he seems to have no conception.

A National Laboratory.—A bill is before Congress to establish a National Laboratory. Five hundred and fifty thousand dollars are asked to start the enterprise. The Marine-Hospital Service, and the Secretary of the Board of Agriculture, are to be the controlling agents of the Government in the conduct of this enterprise.

Deaths of Eminent Foreign Medical Men.—The deaths of the following distinguished members of the medical profession abroad have been announced: Dr. E. Gräber, *privatdocent* in Medicine in Munich.—Dr. van der Burg, Professor of Pharmacy and Toxicology in the University of Leyden.

A Sanitary Convention will be held at Holland, Mich., on Thursday and Friday, October 9th and 10th, 1890, under the auspices of the State Board of Health. At each session of the Convention there will be addresses or papers on subjects of general interest pertaining to public health, followed by a discussion. The Secretary is G. Vanshelven, of Holland.

Therapeutic Brevities.

The Treatment of Ring-worm of the Scalp.—Unna, of Hamburg (Monatshft. f. p, Dermat., 1889, ix, 543), is surprised at the slowness with which the English and French physicians effect a cure of their ring-worm cases. To him the matter is very simple, and he scarcely ever fails to cure a case within five weeks. This is truly good news, and this is the way that the cure is done: *All* the hair is cut off short from the head. Then a strip of zinc-glue (*Zinkleim*) is drawn along the line of the hair all around the head. All inside of this boundary-line is painted with a five- to ten-per-cent. chrysarobin ointment, or one composed of chrysarobin, twenty-five grains; salicylic acid, ten grains; ichthyol, twenty-five grains; and simple ointment, one ounce. An impervious cap of guttapercha tissue is fitted over the head so as to come down to the middle of the band of glue, its edge covered in with the *Zinkleim*, and a mull bandage. Over all comes a close-fitting flannel cap which is to be kept in place by bands sewed on to it. The bandage and dressing are to be changed every twenty-four hours. This method of dressing prevents the chrysarobin from getting into the eyes, and absolutely takes away all danger of spreading contagion, so that the child can go to school. After three days the chrysarobin is washed off and a five-per-cent. ichthyol or sulphur ointment substituted for it. At the end of a week the whole head is to be oiled and washed with soap and water. The process is to be repeated every week for three or four weeks. Before the treatment is begun, and at the commencement of each new course, a number of hairs are to be pulled and cultivated according to bacteriological methods, in order to show the progress of the case. Week by week the spore formation will be seen to be lessened to the final cure.

Hydronaphthol is brought forward by Dr. Dockrell, of London, as a specific in ring-worm (Lancet, 1889, ii, 1110). He says that it has been proved by experiment to be more active than bichloride of mercury as a parasiticide, and, as it is at the same time non-poisonous and non-irritant, it is an ideal remedy for ring-worm. He uses the hydronaphthol plaster of ten to twenty per cent. strength, as that serves at once to limit the spread of the disease and causes penetration of the remedy. His method is to shave the head, and wash it with a five-per-cent. hydronaphthol soap and very hot water; then dry the scalp and apply a ten-per-cent. plaster in narrow strips overlapping each other at the edges and going beyond the diseased area. Outside of all he applies a ten-per-cent. melted hydronaphthol jelly so as to shut out the oxygen. At the end of four days he removes the plaster and repeats the previous processes, using a twenty-per-cent. plaster for one week. Then he repeats the processes and applies a ten-per-cent. plaster for ten days, when the disease will be found cured. During the treatment he applies a five-per-cent. hydronaphthol ointment to the unaffected parts.—*N. Y. Med. Journal.*

How to Prevent Scarlet Fever.—At a recent meeting of the New York Medical Society, a paper was read on "How to Prevent Diphtheria and Scarlet Fever." The micro-organism of scarlet fever has not been positively ascertained, but its effects are known from clinical observation. The contagiousness probably does not cease until after desquamation has passed, and it has been said the discharges from the otitis due to it are contagious. Quarantine in a small room attached to one of the wards at the Foundling Asylum has been sufficient for scarlet fever, but not for measles. The contagious element is more fixed and less diffusible in the former. It remains in clothes a long time. Most prophylactic measures consist in isolation of the patient, disinfection of the person and air, and objects and persons in close relation with him. Particular attention is called to the danger in books handled by those sick with scarlet fever, for in them the contagious element remains a long time.

The following medication is suggested: Carbolic acid and oil of eucalyptus, of each one ounce; spirit of turpentine, six to eight ounces; mix. Add two tablespoonsful to a quart of water, put in a broad basin, and maintain a state of constant simmering over an oil-stove. Also order an inunction of the entire surface of the patient every three hours with: Carbolic acid and oil of eucalyptus, each one drachm; sweet oil, seven ounces. A solution of corrosive sublimate may with advantage be applied on a probe and cotton to the tonsils and pharynx, and ten drops of a solution of two grains to the pint syringed into the nostril every two hours in the young infant. Then there should be constant ventilation during the active period of the fever; no article should be sent from the room unless properly disinfected; new families not allowed to move into the apartments before proper disinfection; the physician should disinfect his hair and entire person, and not wear the same clothing when going to see midwifery cases.

The Treatment of Cervical Catarrh.—Stratz (*Zeitschrift für Geburtshülfe u. Gynäkologie*, Band xvii. Heft 2) reports the comparative results obtained by employing different methods of treatment in successive series of twenty-five cases. In the first series daily applications of a ten per cent. solution of chloride of zinc were used, the average number of applications being eighty. After the lapse of five months ten patients were not cured, and the other fifteen had a recurrence of the trouble within two or three months. In the second series a fifty per cent. solution of chloride of zinc was applied, the average number of applications in sixty days being twelve. Three patients were treated for six months without benefit; six were cured, and all the rest had a recurrence after a couple of months. Syphilitic patients responded promptly to the treatment. In neither series was there any unfavorable symptom.

The third series included many of the cases which had been treated unsuccessfully with the chloride of zinc applications. In every instance excision of the diseased mucous membrane, according to Schröder's method, was followed by a cure.

The fourth series were treated by applications of concentrated lactic acid, about ten being made in the course of fifty days. Ten patients were cured, two were not benefited, and the rest had a recurrence.

In conclusion the writer infers that the weak chloride of zinc solution is comparatively useless, the stronger solution and lactic acid give fair results, but that excision offers the only sure prospect of permanent cure in obstinate cases of chronic cervical catarrh.—*Amer. Jour. Med. Sciences*, July 1890.

Treatment of Acute and Gonorrhœal Rheumatism by Phenacetin in Large Doses.—Rifat (Bulletin Général de Thérapeutique, May 15th) reports the results of recent experimentation with phenacetin in rheumatism, both acute and blenorrhagic. He has treated sixteen cases; in three of these all the joints were more or less affected; in four only two or three joints were swollen and painful. In the three grave cases, which were attended with a very high fever, he was obliged to give large doses, fifteen grains every three hours day and night. In six of the cases he gave the fifteen grain dose only every four hours.

There is, he says, extreme tolerance by the stomach of phenacetin (an advantage which it has over analgesin). It is well to begin treatment by giving only forty-five grains a day, that is, fifteen grains every three hours till three doses are taken. This dosage is, however, insufficient in rheumatic polyarthritis. Where he begins with three grammes (forty-five grains) *per diem*, he increases by one gramme (fifteen grains) a day till the pain has ceased, and the movements of the joints are restored. Ordinarily by the fourth day, when the daily dosage of six grammes (ninety grains) is reached, there will be noticed disappearance of the pain, freedom of movements, and absence of heat and swelling about the joints.

The Care of Teeth in Childhood.—The Medical Mirror calls attention to the importance of taking care of children's teeth. For this purpose the following prescriptions have been recommended by Monti, of Vienna:

℞ Carbonate of magnesia, 10 parts.
White chalk,
Salicylate of soda, ää 30 parts.
Essence of menthol, q. s.
M.

℞ Carbonate of magnesia,
Medicinal soap, ää 15 parts.
Cuttlefish bone, 16 parts.
Essence of menthol, q. s.
M.

In addition, the family dentist should be called upon at the very moment when the first point of decay appears on any one of the teeth, in fact, he should be visited at intervals of a month or two after the appearance of the first teeth. By his aid and interference, the first little decaying spots may be filled and the decay checked, and the nerves or the sensitive pulp need never be exposed, and the teeth may thus be kept in good shape up to the time when the roots have been absorbed and Nature is ready to throw them off and make room for a second set which are presented.

The Treatment of Phthisis by Heated Air.—In reference to this subject, Dr. Dujardin-Beaumetz, at a recent meeting of the Academy of Medicine, declared that it was important to remove the delusions concerning the treatment of phthisis by this means, which were entertained both by the public and by certain medical men. The first idea of Weigert, who championed this method in America, supposed the bacillus in the lungs could thus be destroyed. Mosso and Rondelli have shown that the air inhaled even at 212° F. is not, at the moment it reaches the alveoli, higher than the rectal temperature. From a clinical point of view, the same authors affirm that this method is of service in producing a species of respiratory gymnastics. Dujardin-Beaumetz adds that the experiments carried out by him in his hospital ward had given unsatisfactory results, and concludes that the hot-air treatment of such cases is positively dangerous. *Apropos* of this subject, Dr. Constantin Paul remarked that at all the mineral water stations where phthisis was treated, it had been observed for a long time that when the temperature of the air became high, the treatment had to be suspended, as the condition of the patient became notably aggravated.

How to Wash Out a Baby's Stomach.—A. Siebert, M.D., in the Dixie Doctor, gives the following directions for performing this little operation: A No. 10A soft catheter is attached to a glass tube six inches long; the operator is seated before the child, which is held upright (as in throat inspection), or on one side when collapsed; the left index finger of the operator is held between the right upper and lower maxillæ so as to prevent the mouth from closing. Then the tube is passed over the tongue into the pharynx, the head of the child inclining slightly forwards. By gentle pressure we overcome the spasmodic contraction of the upper pharyngeal muscles, and then the catheter glides easily into the stomach. Now the left hand holds the catheter, and the right attaches the lower end of the tubing of the fountain syringe, or regular irrigator, over the glass tube attached to the catheter. Water is now allowed to flow, and after the stomach is filled the supply is shut off, the tube detached, and the end of the glass tube lowered below the child's umbilicus, so the contents come away very nicely. Never use force. No trained assistant is necessary. The tube will never enter the larynx. The younger the babe, the easier it is to wash out its stomach.

Diuretic Effect of Grapes.—Dr. Pecholier, of Montpellier has published a note on the diuretic effect of grapes, which would appear to confirm the diuretic action of glucose recently brought to notice. In two cases, one a patient with cardiac disease, and the other the subject of hepatic cirrhosis with ascites, a "grape cure" was undertaken with the best results. In the former patient, notably, five pounds of grapes were daily ingested, in three parts, and the diuresis produced was much more considerable than with milk, digitalis, or iodide of potassium. This effect can only be attributed to the sugar of the juice of the grape, the other parts of the fruit having been rejected.

Detection of Terpin in the Urine.—M. Loison has devised a simple plan for detecting terpin in the urine in very small quantity, based on the fact that this substance, when treated with hydrochloric acid, evolves a hydrocarbon which colors chloride of antimony red.

Medical Progress.

THERAPEUTICAL APPLICATIONS OF INJECTIONS OF TESTICULAR FLUID.—On the strength of the experiments of M.M. Brown-Sequard and Variot, Professor Mairet of Montpellier has tried injections of testicular fluid in mental diseases, especially those characterized by stupor. Brown-Sequard says that in women analogous effects can only be expected from injections of the fluid from the ovaries. However, Mairet's experiments on two women with testicular fluid show that the action is the same as in men, while injections with fluid from the ovaries are much less active—in one case *nil*. The testicular fluid, however, was taken from dogs, while the fluid from the ovaries was taken from rabbits; and the testicular fluid of dogs is more active than that of rabbits. But, in every case, the activity of the testicular fluid is not specific, but simply the consequence of its chemical composition; it is, therefore, as potent in action on the nervous system of woman as on that of man. The testicular fluid was obtained from young adult dogs, castrated in the laboratory (Montpellier) by Professor Mairet. Strict antiseptic precautions were taken, and the epididymis, which in dogs often contains microbes and therefore pus, was removed. The testicles were pounded in a mortar, with the addition of from 20 to 25 c. c. of distilled water to each testicle. The resulting fluid was filtered, and the pink filtrate containing no spermatozoa was injected. One testicle furnished from 12 to 15 c. c. of filtrate. The injections were made in different places, especially in the lumbar and abdominal regions, once or twice daily. Slight redness at the point of injection was the only local symptom. Apparently but little pain was caused. Six cases were thus treated. The cases of four are given. The fifth, a case of *folie circulaire* probably, in due course of the disease became acutely maniacal; the sixth was removed to another establishment soon after treatment was commenced. (1) A man, aged 37; eighteen months ill, with alternating periods of excitement and depression. With the first occurred confusion of intellect, fear and sadness, with hallucinations of various kinds; with the second, deep stupor. When the injections were commenced, the last state was very marked—vacant look; answers slow, or impossible to obtain. Sitting on a stool, or standing, he remained by the hour in the same position, not thinking of going to meals, or of eating when placed at table. He had to be waited on like a child. The mental disturbances point to functional and hereditary dementia. After three days the stupor disappeared. He walked constantly up and down, pressed the hand of the attendant to show the increase of his strength. Restless; hearing hyperæsthetic; thinks that the people about him wish to do him harm. Color of the face showed the excitement of the mind. No apparent excitement of sexual ideas. (2) A woman, 25, became insane while nursing her two children. She had general rheumatism, with delirium; then stupor, alternating with periods of excitement and depression, with hallucinations of sight and hearing. Two months later, only the stupor remained. One could scarcely obtain from her a badly articulated answer. Passed everything under her, and must be fed like a child. The extremities cold and œdematous, so that she had to be kept in bed. At the time the injections were commenced, the bodily condition was better, but the stupor had not varied for three months. After three days' treatment the patient stood up, answered with more liveliness and greater intelligence, ate alone with appetite, busied herself with her needle, became neat and tidy, and had a certain initiative. The expression was more open, and the movements less weak; sight quick, and hearing hyperæsthetic. Probably a certain degree of sexual excitement, and disappearance of anæsthetic districts, which had existed in the right leg and left arm. (3) Puerperal insanity, hereditary; had at first maniacal attacks, but for five months before the commencement of the injections, in a stated of deep stupor; vacant, unquiet, look; has to be treated like a child, fed, taken to the closet, etc.; extremities cold. After the injections, restless, going from place to place, from one patient to another, looking at them in the face; removing their work; trying to recognize and kiss her relations. Her intelligence improved. She answered sensibly. To the question if she wanted anything, she said she wished to go home, to take care of her husband and children. She embraced old people and children, taking them for her parents and children, and ate up the food she was given to carry. Perhaps, certain sexual excitement. (4) Man, 37, insane for many years; intelligence all but absent. Stupor, expressionless, cold extremities, intermittent pulse. Can only be aroused by vigorous shaking to give imperfect answers. Stays by the hour in the same attitude; must be fed. In this case, also, the injections caused evident cerebral excitement. The condition of the patient was a guarantee that suggestion had no part in the effect of the injections. In stupor, these injections of testicular fluid act on the intelligence, sensation, and mobility. At the same time, these conditions of excitement were only of a diseased nature and fugitive. Ten days after the injections they had ceased. At the same time, there were other effects which invited the continuance of the injections, that is to say, on the circulation, temperature, and nutrition. (1) The normal frequency of the pulse was not influenced, but an abnormal frequency became normal. In one case the pulse fell from 130 to 80; and, in another, it rose from 56 to 80. In one patient, in whom the pulse was intermittent, it became regular. After some time the pulse became stronger—*i. e.*, as nutrition improved. (2) The temperature of the body was also regulated. From 36° C. it rose to 37°. (3) Nutrition improved; the appetite so increased that the patients ate double what they did before. This effect outlasted the excitement, and caused improved tone of the nervous system.

Mairet now employs the injections in the following way:—When, after a number of injections, the tonic effect appears, a pause is made until the effect works off; then a new series of injections is commenced. Case 2 was so improved by one series of injections, that she must be looked upon as cured. The patient asserted that, after each injection, she felt stronger, and her mind clearer. The other patients too, essentially improved.—G. D'Arcy Adams, M. D., in *London Medical Recorder*, May 20th, 1890.

RHUS TOXICODENDRON FOR RHEUMATISM.—While upon the subject of disorders affecting the nervous system, it will be appropriate to mention the use of rhus toxicodendron for the relief of rheumatism. Renewed attention has been called to this drug through the writings of Dr. Aulde, who published a communication on this topic in the Medical News, about a year ago. He referred to the fact that the drug had been studied, and was in use in England as early as 1798, and introduced into the British Pharmacopœia in 1836. The fact was also stated that the drug was described and its properties noted by Phillips in his work on Materia Medica, but he was not then aware that Piffard, of New York, had used the remedy extensively for rheumatic affections. Instead of claiming to have discovered the drug, Dr. Aulde simply suggests that he has only been instrumental in spreading the knowledge of its properties, and, while studying its effects, he believes that new applications have been found for it. These can scarcely be called inventions, as they are more in the nature of discoveries, such as would naturally follow upon the use of the drug.

This matter will be more fully understood and appreciated by a relation of some of the incidents which have led him to recommend it for so many apparently different disorders. Here is a man who has long suffered from acute and chronic rheumatism which has stubbornly resisted all forms of treatment. The use of rhus not only dislodges the rheumatism, but with its disappearance the varicose veins also disappear. Another patient takes rhus for rheumatism affecting the knee, and although it has been of long duration, the pain disappears in a few days, and with it a cystitis more or less troublesome for twenty years. Again, a patient complains of pain in the ball of the foot, and the rhus not only cures the pain, but causes a stubborn form of eczema of the nails to subside, although the latter had persisted for several years. A man with lumbago takes rhus, and finds that the pain due to piles stops as if by magic. A patient with sciatica finds that the rhus relieves the pain, and at the same time cures him of a most aggravating kind of eczema.

Professor Taylor, of Charleston, S. C., reasoned from analogy that if rhus relieves the pain incident to muscular rheumatism, it might be useful in overcoming the acute pains which follow the attacks of epileptiform convulsions, and on trial he was not disappointed. As a fitting illustration of the great value of this drug, a case may be noted where a man had suffered for weeks from pain in the ankle joint, due probably to a rheumatic element, who returned in an hour after taking the first dose to say that his malady had been eradicated.

The dose of this drug is one-half drop of the tincture made from the fresh leaves, three times daily, given with a few drops of diluted alcohol and about a drachm of water. The active principle, toxicodendric acid, being volatile, is probably lost in drying, and, therefore, the fluid extract made from the dried leaves should not be used, even in large doses, as it is practically inert.

The season of the year is now approaching when rheumatic troubles are of frequent occurrence, and we shall be pleased to have our readers investigate the claims of rhus toxicodendron, and report the results for publication. —*Medical Summary*, April, 1890.

THE CHEMISTRY OF GOUT.—There have been great advances effected in the study of the chemistry of gout. It is a protean disorder, the manifestations of which, thanks to Sir Alfred Garrod, we now know to be dependent upon, or at any rate to be associated with, some interference with, or deficiency in, the metabolic changes which take place in the organism resulting in the presence of an excess of uric acid in the blood. The immediate determining cause of this excess of acid still eludes investigation, but there have recently been made known some observations of exceeding importance in regard to the behavior of the acid in the blood and tissues under varying conditions of environment, throwing light upon the relationship of the excess of acid to the pathognomonic morbid phenomena of gout. It has been known as a matter of clinical experience that alkalies favor the elimination of uric acid from the system, while acids, on the contrary, diminish it. A paper read by Sir Wm. Roberts before the Royal Medical and Chirurgical Society affords a scientific explanation of some of the points alluded to, and paves the way to further discoveries. As we have already stated, in a previous article,* this observer has demonstrated that uric acid in the blood exists in the form of a soluble quadurate. Under certain circumstances, especially if the alkalinity of the blood be lessened, or the excretion of the quadurate by the kidneys be unduly delayed, the salt combines with the sodium carbonate in the blood and forms biurate of sodium, a salt which is remarkably and persistently insoluble in blood serum. Synovia is less alkaline than the blood, and it is suggested that this fact may account for the deposition of the crystals of biurate in the joints, where they set up the local inflammation which characterizes the disease. The immediate effect of this deposition is to clear the blood to some extent of its superfluous acid, and this is quite consistent with the clinical phenomena observed after an attack of gout. When uric acid is treated with an alkaline solution outside the body, it is taken up as a quadurate. There, as in the body, it undergoes a process of what Sir Wm. Roberts calls "maturation;" and then, ultimately, suddenly breaks up into the biurate of precipitates. Direct observation on the behavior of uric acid in the laboratory shows that, *cæteris paribus*, precipitation occurs earlier in synovia than in blood tissues, and this supports the hypothesis of the reason why the deposit takes place preferably in the joints. While, however, the stage of solution was hastened by increased alkalinity of the medium, no appreciable effect in retarding the period of maturation and precipitation was produced, and the addition of salts of sodium notably hastened these processes. The addition of salts of potassium, lithium, or magnesium did not appear to have any effect in either direction, with the exception of chloride of potassium, which seemed to prolong the period of maturation. The most important

* See MEDICAL AGE of June 10th, p. 260.

factor in determining the duration of the period of maturation was shown to be the proportion of uric acid present in the solution. The biurate is absolutely insoluble in alkaline media, and its solubility increases as the proportion of saline matter in the medium decreases. This perhaps explains how the "water cure" acts in clearing the system of its surplus acid. At the same time the paper inculcates the necessity for caution in the use of alkaline waters, which if administered when the blood is charged with uric acid, may, by favoring the formation of the insoluble biurate, precipitate an attack of gout. Taken earlier, when there is still, so to speak, a margin of solubility, the alkalies may facilitate the conversion of the uric acid as it is formed into the soluble quadurate, thence to be eliminated by the kidneys if these organs are in good working order. The beneficial effects of alkalies would thus seem to be dependent upon prompt elimination of the uric acid, and an ample supply of liquids may aid this taking place. We may note *en passant* that the urates of iron and lead are extremely insoluble. We are probably only on the fringe of this important and recondite problem, for Sir Wm. Roberts hinted at the existence of a colloid form of the biurate, the sudden conversion of which into the crystalline form might account for the onset of an "attack."—*Med. Press and Circular.*

THE TREATMENT OF OBESITY.—The relief of obesity is one of those topics of which it may be said, "It will repay further Investigation." The fact is, that obesity is a disease of which the cause and the development are still obscure, and the various methods of treatment are based on physiological principles in themselves only imperfectly understood. In a recent paper, read by Dr. Mayer of Carlsbad before the Medical Society of Berlin, the author passed in review the various plans which have been suggested for getting rid of the superfluous adspose tissue, which is often as dangerous as it is inconvenient. One or two of these have been submitted to the test of experience, and have proved themselves capable, under certain conditions, of reducing the body weight in any noteworthy proportions, but unfortunately their rigorous enforcement is not always compatable with the safety, to say nothing of the comfort, of the patient, who is scarcely disposed to purchase relief at the cost of health or life. It is a fact that is often overlooked, that the regimen which is advised constitutes a grave departure from normal physiological existence, and although some organisms may come triumphant from the trial, others, whose margin of endurance is narrower, will prove utterly unable to carry on their functions under novel and distressing conditions.

In estimating the theoretical value of the various methods of cure, we are reminded that there is no well-defined line of demarcation between physiological and pathological obesity. We are consequently unable to state where one ends and the other begins, and we are ignorant on the question as to whether the pathogenesis of the disease is regulated by other laws than those which determine the physiological deposition of adipose tissue. One striking feature of the tendency is its hereditary nature, this being one of the most frequent factors in the production of obesity. There exists, however, an individual disposition to fat formation which may be dependant upon a general deficiency of trophic activity on the part of the nervous system or associated with disturbances of the generative functions, better marked in women. We cannot pretend to decide in respect of the vexed question of the origin of fat, for the authoritative dicta of one set of physiologists have been controverted by others of equal eminence, and the only safe guide is the knowledge gained by experience.

The dangers of the exclusive regimen which is the best known method of reducing the body weight, are several. The muscular substance of the heart suffers, in some cases, to such an extent as to give rise to alarming symptoms of cardiac depression, and the circulatory disturbance is increased by the quasi-suppression of liquids which is insisted upon in most anti-obesity dietaries. Moreover, as might be expected, dyspepsia is a frequent complication, enough by itself to preclude a perseverance in the treatment. Then, too, the reduction in the daily excretion of urine tends to check the elimination of waste products, a serious thing when one bears in mind the distinctly gouty proclivities of most corpulent persons. When for any reason the treatment in all its rigor is not admissible, some relaxation of the rules may be compensated by the use of the adjunctive methods, such as hot air and vapor baths, massage and mountain climbing—particularly recommended by Oertel in cases of weak heart. The latter treatment, however, is obviously one of great nicety, for the safe maximum may be easily overstepped, when the possible benefit will be largely exceeded by the inability of the enfeebled heart to withstand the strain. The patients who for any reason are unable to tolerate the abstention from liquids, have an alternative in the mineral water treatment, which is claimed to give excellent results in a comparatively short space of time. It is difficult to justify physiologically, but this objection is of little importance if the effects are satisfactory.—*Med. Press and Circular*, May 28th, 1890.

THE SUMMER DIARRHŒA OF INFANTS.—As the warm season comes on, we cannot shut our eyes to the fact that it is certain to bring with it the yearly summer increase—in some years a little more, in others a little less, but always considerable—of one of the chief obstacles to the survival of infants in this climate. Its onset will tax the resources of physicians while it wrings the heart of many a parent. If we take account of the continued increase of our population, still largely by immigration, with the helplessness that seems inherent in the great majority of the poor who come to us from other countries, we may congratulate ourselves that much has been accomplished to keep the perils of infant life within reasonable limits. Sanitary officials now occupy themselves with measures more directly of benefit to the community than the gathering of statistics; the controllable causes of disease are all the time getting to be more and more understood, both by the medical profession and by the people; blind confidence in certain special articles of food is giving way to the feeling that there is

nothing curative in any of them, but that their beneficial operation is rather negative than positive, in that they take the place of substances that are apt to prove detrimental; and, thanks to the growth of private as well as public bounty, adequate medical care and hygienic surroundings are furnished each year to a larger proportion of the community. Still, the ravages of summer diarrhœa among young children have barely been mitigated, not decidedly reduced.

The brunt of the battle against it still falls on the family physician, and it behooves him to consider with what greater advantages he can undertake the task now than in previous years. On reviewing the resources at his command, he will be obliged to recognize that only a very few of those that are really effective are strictly medicinal. Some new drugs, it is true, are proving valuable agents, but correct feeding must be our main reliance. The problem of supplying an infant deprived of breast-milk with food sufficient for its nutrition and at the same time free from elements that are prone to give rise to gastro-intestinal disturbances, is not to be met by any grand move; it is to be met only by unremitting attention to a multitude of details, varying somewhat according to the circumstances of the individual case. Undoubtedly a most effective weapon of defense has been placed in our hands by those who have contributed to simplify and popularize methods of sterilizing milk, for milk must be given to infants day after day, allowance being made for its temporary withdrawal from the diet under special circumstances. Not less important is absolute cleanliness of every article with which an infant's food comes in contact—cups, spoons, nursing-bottles, and the like. It is by the supervision of such matters far more than by the ingenious use of drugs, that the physician will be able to carry his patients through the perils specially incident to the hot season.—*N. Y. Med. Journal*, June 21st, 1890.

Treatment of Post Partum Hæmorrhage.—Prof. Otto Küstner has recently added an interesting and complete study of this subject to the literature of obstetrics (Deutsche Med. Wochenschrift, 1, 1890). He divides hæmorrhages into two classes: First, those caused by the rupture of the genital tract: Second, those from relaxation of the uterus. Among the remedies recommended for this latter condition are ergot, stimulation by heat, and massage of the uterus. If these do not succeed, the iodoform gauze tamponade of the uterus is recommended. This last method, in his judgment, not only excites uterine contraction, but also exerts direct pressure upon the bleeding part. In cases where the source of the blood can not be at once made out, the entire genital tract should be tamponed.

We may well ask, in the light of this communication, what, if anything, has been added to the treatment of post-partum hæmorrhage? With the single exception of *tamponement*, after the method of Dührssen, there is scarcely anything that may not be found in any elementary work on obstetrics. Conspicuous by its absence is the quickest, most certain and efficient means of securing uterine contraction; we refer to the Faradic current.

In these days, when the antiseptic craze in midwifery is at its height, and the medical journals are filled with articles that will almost convict a physician of mal-practice who is so unfortunate as to have a death occur from child-bed fever, we may ask our obstetricians why post-partum hæmorrhage from inertia of the uterus is ever allowed to take place, when a means is at hand that will contract the uterus in a dead body. We trust that we may not be considered impertinent if we doubt the necessity of stuffing the uterus with iodoform gauze, when, if uncertain of our diagnosis, a few rigorous contractions of the uterus would at once settle the question whether the hæmorrhage was due to inertia or rupture.

It may be argued that an electric battery is a complicated piece of apparatus, liable to get out of order, and too bulky for convenient transportation. All these objections have been met by the ingenuity of our manufacturers, who have devised instruments of surprisingly small compass, from which currents of great intensity may be obtained. These batteries are free from corrosive liquids, their action is certain, and they may be charged and put in working order in a few seconds. Every obstetric bag should be supplied with one of these pocket batteries, for with it severe hæmorrhage from uterine inertia is a practical impossibility.*—*Jnl. Amer. Med. Association.*

Treatment of Obstinate Constipation by Dilatation of the Anus.—In the Annales de Thérapeutique Medico-Chirurgicales, March, 1890, Monod relates in detail the history of two cases in which this operation was performed with marked success. In the first case, a woman, forty-five years old, had suffered for some years with digestive troubles, which she thought were due to a tumor of the bowel. Digestion was disturbed by swelling of the belly and eructations, with a feeling of weight in the lower part of the abdomen, and with constipation alternating with diarrhœa. On examination of the rectum, Monod found that that the tumor was an enormous lump of hardened fæces, the presence of which had not been suspected because there had been no sign of obstruction of the bowels recognizable by the patient, as the fæcal matter, rendered fluid by repeated purgatives, slipped over the hard mass. After dilating the anus instrumentally, the mass referred to was broken up with the fingers and removed, together with a vast number of scybala. A laxative given in from twenty-four to forty-eight hours completed the clearing out. As six years have elapsed since the operation, and the patient has had no return of her troubles, there is some ground for regarding it as curative. Of course, however, careful instructions were given regarding the regulation of the diet.

In the second case, a woman, fifty years of age, suffered with habitual constipation and various digestive troubles brought about by it. The use of repeated injections and laxatives, or, in their absence, the passage through the rectum of hard, fæcal matters, had induced a condition of habitual irritability of the anus,

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* An agent nearly, if not quite, as effective if properly handled, may be had in cannabis Indica.—Ed.

never, however, amounting to the cutting pain of fissure. Monod dilated the anus, and the patient's distressing symptoms disappeared; and gradually she was able to do without laxatives.

Monod says these are not the only cases of the kind he could cite. They are sufficient, however, to illustrate the fact that some cases of constipation depend upon a local removable lesion of the lower part of the rectum and of the margin of the anus, which can be remedied by dilatation. This treatment must necessarily have a very limited range of applicability, but it certainly appears worthy of consideration in the management of cases in which constipation is the result of habitual spasm of the sphincter ani, set up by hæmorrhoids, fissure, eczema or—as apparently in the first case—by an impassable ball of hardened fæces.

Eucalyptus Honey Again.—In the Archiv der Pharmacie (1889) I made a report on the history of eucalyptus honey. I then called attention to the statements of the Australian Journal of Pharmacy, according to which, in Australia a "eucalyptus honey" having the odor of eucalyptus was regarded as an artificial mixture of common honey with eucalyptus oil. Statements were subsequently made to me, however, by Messrs. Parke, Davis & Co., that a honey really exists which is gathered by the bees in the eucalyptus districts, and deposited in the hollow spaces of the trees, and accordingly has some claim to the designation "eucalyptus honey;" that is, it has no more and no less right to this designation than have our so-called "linden honey" and "meadow honey" a right to their names.

Messrs. Parke, Davis & Co. personally procured such "honey from the eucalyptus districts," and it has been ascertained in the laboratories of this firm in Detroit that this honey contains no volatile oil. On the other hand, it possesses a disagreeable smell, (without, however, any odor characteristic of the constituents of eucalyptus), and a peculiar unpleasant taste; in other respects it has a composition similar to that of common varieties of honey. The analyst was finally able to discover pollen of the compositæ.

To the kindness of Messrs. Parke, Davis & Co. I am indebted for several pounds of the honey coming from Australia and gathered in the "eucalyptus districts," and I do not hesitate, as a result of my own experiments, to confirm the statements of the American analyst. The taste of the honey is peculiar, but by no means recalls that of the eucalpytus constituents; neither by distillation nor by trituration with ether, could even traces of a volatile oil or of a resin be obtained. The odor of the honey differs from that of our domestic variety, only in that, if I may so express myself, it is rather coarse—not so fine as the latter. At all events, this genuine honey, gathered in the eucalyptus districts, does not deserve the designation "eucalyptus" on account of any proportion of eucalyptus constituents, since such are entirely absent; it would accordingly be wrong to ascribe to such a product, differing from our honey solely in a coarse, unpleasant taste, special therapeutic virtues, or to vaunt its power as a remedy in numerous diseases.—Prof. Ludwig Reuter, in *Pharm. Zeitung*, April 26th, 1890.

A New Suspensory Bandage for the Treatment of Epididymitis and Orchitis.—This consists of an elastic band, which fastens round the hips with a buckle; a bag to hold the testicles, of large size, with a hole through which the penis protrudes, made of mackintosh material; two straps pass from the posterior margin of the bag around the gluteal folds, and hook in front to the elastic band. On each side of the bag are two tapes, which when tied are able to produce a considerable pressure upon the testicles. To apply the bandage, it is necessary to line the bag with a layer of cotton wool half an inch thick; place the testicles in it, and adjust the straps. More cotton wool is inserted until the whole is well and firmly packed, and the lateral tapes are securely tied. The essential principle of this bandage is to exert a uniform elastic pressure upon the testicles by means of the cotton wool and nondistensible bag, and this it accomplishes most effectually. Its advantages in the acute stages of these diseases are most marked, but it is also of great service in the more chronic forms, hastening resolution and the absorption of the plastic exudation. By its use we have been able to dispense entirely with any other means of treatment, and in the severest cases of epididymitis the patients have been able to walk about and do their work, in many cases of a laborious character, with perfect comfort and freedom from pain. In one case the patient was groaning and retching constantly, unable to move, but upon the application of the bandage, immediately got dressed, and could walk about the ward comfortably. In only one instance after its application was pain complained of, and then it was situated high up above the external abdominal ring in the cord. The duration of the inflammatory process is also checked, the plastic material thrown out is much less in amount than in cases treated by ordinary antiphlogistic remedies. The freedom from pain, and the obviation of the necessity of keeping in bed, are recommendations for this bandage, which I am certain will lead to its general use in the treatment of acute inflammatory affections of the testicle, and although not so marked in the more chronic forms, its utility in them is unquestionable.—R. J. Carter, M. B. Lond., M. R. C. S., in London *Lancet*, June 14th, 1890.

Imperforate Hymen as a Cause of Epilepsy.—In a recent issue of the Lancet, of London, Dr. Usher Somers reports a case of epilepsy manifestly due to imperforate hymen. A young woman of twenty, who had never menstruated, exhibited a tumor in the lower abdomen, and also suffered repeated attacks of epilepsy. Examination revealed the vulvar orifice obstructed by a fluctuating swelling, which proved to be the hymen occluding the vagina and preventing exit to an enormous amount of menstrual fluid. Excision of hymen caused a speedy disappearance of the tumor, whereupon the attacks of epilepsy permanently succumbed.

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Original Articles.

THE ROLE OF THE MICROBE.*

BY A. R. SMART, M.D.†

The discovery of the micro-organisms known as bacteria, or schizomycetes, was made over two centuries ago. For a long time but little was known of these bodies. About forty years since they began to be mentioned in connection with various diseases, and a causal relation was assigned them; but it is only in the last two decades that the microscopist has so far outstripped the chemist in the race of discovery. A world of microbes hitherto unknown has been brought to light by the microscope, and one after another has been identified with different forms of disease and destructive processes, and in many cases been declared the chief causal factor. So far has the tendency of medical investigation extended in this direction, that scarcely a disease exists that is not asserted to have a bacterial origin. Rheumatism, cancer, mumps, serous inflammations, pneumonia, fevers, inflammatory states acute and chronic of bone, gland, muscle, or nerve, are all said to arise through bacterial agency. Even warts have their birth in bacterial action, and the height of the bacterial craze seems attained by a recent writer who declares anal fissure to be a parasitic disease.—I suppose the division or stretching of the sphincter, which so promptly cures, must destroy the offending bacteria. Sad indeed is the parentless condition of that malady in these days which cannot show a microbic genealogy. The old notions of heredity, impaired vitality and nutrition, diathetic influences, the chemistry of nutrition involved in cell activity, etc., are in danger of being forgotten or ignored. Probably no subject has occupied the medical mind during the last few years so fully as has the germ theory of the ætiology of disease. Old ideas have been relegated to the rear. Pathology is becoming a study of the life history of microbes, and therapeutics a search for agents to kill them. When this has been accomplished, the simplicity of homœopathy will be surpassed; all required will be, to identify the microbe and destroy him. This Utopian idea of the practice of medicine is not, however, likely to be realized. It is probable that much now so confidently assumed regarding the action of these organisms and their relations to the tissues of the human body, will ultimately be abandoned, as much has been already renounced. Much praise is due the patient toiling workers in this field, but the subject is a very difficult one. Our knowledge of these bodies and their habits is yet in its infancy. The same is true of the nature of protoplasmic action in the cell, constituting the phenomena of life. What has been attained may prove a foundation for a complete superstructure, but is far too fragile and insecure a basis on which to rest the important structures of pathology and therapeutics. Since we are daily urged to accept as final the conclusions of some germ theorist, let us briefly notice some reasons *why* we should hesitate to accept without reserve the bacterium as so important a factor in the disease problem. The group of schizomycetes or bacteria, one of the seven classes of vegetable fungi, are of universal distribution, upwards of 200 having been discovered as possessing an individual identity; and the returns are not yet all in. They swarm about in the food we eat, in the air we breathe, and in the water we drink. The cavities of the body to which air has access contain them. It has been asserted that they are found in closed cavities, and formerly it was claimed they could be found in healthy blood. This view is not now entertained. Of the whole number known, but few are considered harmful or of importance as disease-producers. Not only are they harmless, but they are of essential value in the part they act in life processes. Without these micro-organisms life could not go on, either in the animal or the vegetable; the destructive metabolism begun in the animal cell is furnished by the microbe. They are factors of the greatest importance in the nutritive processes of plants and animals, both as parasites and saprophytes; they are active in resolving into simpler elemental forms any organic material within their grasp and which they require for their nutrition. They consist of masses of protoplasm enclosed in a cell wall, and possess properties common to cell-life—power of nutrition, reproduction, and excretion of effete material. The blood, serous fluids, and tissue cells of the body are inimical to these organisms, and either destroy them or prevent their

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* Read before the Ohio State Medical Society, June, 1890.

growth. Prudden says considerable numbers of pathogenic germs may be introduced into normal blood and they will disappear in a short time.. The blood serum of different animals seems to possess different germicidal power. The serum of the dog exceeds that of the rabbit. Certain conditions of a tissue or special periods in its growth afford a better soil to bacterial growth, as illustrated by the rarity of ringworm after 16,or tubercular joint disease after the age of puberty. Different species again require different soil for development. But few of our infectious diseases are communicable to animals. Again Loeffler found in one out of twenty normal fauces a micro-organism which caused rapid and fatal septicæmia in animals. Another has cultivated a microbe found in the pharynx of healthy persons as well as those suffering from scarlatina and diphtheria, and apparently identical with the alleged diphtheritic bacillus, yet inoculation of animals with it produces no untoward results. More than a score of microbes have been described whose home is in the alimentary tract; here they work various and important changes in the digestive processes. Some induce putrefactive changes in the nitrogenized matters, but only in the later periods of digestion. If the process is normal and rapid, no bacterial activity will be displayed. If slow and imperfect, bacteria will thrive with the development of toxic principles. In like manner pathogenic bacteria may incite a series of chemical changes in the tissue cells, but not until vitality and normal resistance have been impared. It is not certain whether the phenomena incident to the growth and development of the microbe result from the microbes themselves or from the chemical poisons generated by their growth and by the cell destruction. About forty toxic principles are known of this character. Brieger says the chemistry of bacteria stands in most intimate relation to the diseases with which they are associated. M. Peter remarks that cholera may be much better explained by ptomaine poisoning than by the comma bacillus. Fluids, sterilized, have in a number of experiments been found to produce the same results when thrown into the blood or peritoneal cavity, as when they held the living organisms, the severity of the symptoms being in proportion to the amount used. It has been shown that solutions in which the micro-organisms had been destroyed by heat, were still capable of setting up purulent inflammation. Chambercand and Roux found, by injecting solutions in which bacteria had been destroyed, that the animals were made resistant to inoculation by the corresponding microbe, and that efforts to discover the chemical substances which thus prevent the development of the special germ in question, and confer upon the body immunity from its action, have failed thus far.

In a recent article in the British Medical Journal, Mr. Hankin claims to have extracted from anthrax culture fluids an albumose which conferred this protective influence. It is known that saprophytic microbes in the intestinal canal generate in their growth substances that arrest their further activity. The generation of leucomaines in the metabolism of albuminoids without bacterial agency, is now generally recognized; this, in connection with the proven fact that the symptoms produced in connection with certain microbes can be caused without the intervention of the living germ, seems to show the agency of some chemical substance yet undetected.

Roscoe says the symptoms of infective disease are no more due to microbes than alcoholic intoxication is due to the yeast cell. The experiments made with jequirity bean are interesting in this connection. An infusion of the bean, after standing a time, was found to contain certain special bacteria to which the action of the infusion was ascribed. These were cultivated through several generations and yet retained their specific properties. Dr. Klein found that an infusion carefully made to prevent contamination, and used immediately, while producing the characteristic inflammation of the eye, produced no change in sterilized peptone solutions. It was found that the spores of this bacterium would bear boiling for a few minutes. Dr. Klein boiled an infusion full of bacilli and spores; sterile test-tubes inoculated with this were teeming with bacilli after forty-eight hours, but no amount would induce inflammation, showing that the heat had destroyed the principle which caused inflammation, and that it was not the bacilli. It is claimed that an inherent ferment exists in the tissues in health capable of inciting structural change when the closest scrutiny reveals no micro-organism. Brunton says facts seem to point to ferments or enzymes by which tissues are built up and pulled down. The experiments of M. Roussy indicate that the soluble chemical substances found with micro-organisms are very likely the cause of the phenomena produced rather than the microbes. Many evidences exist to show that all cells or biological units by their vital activities elaborate soluble ferments or principles of the greatest importance in the processes of nutrition, and of whose nature and mode of action we know but very little. These are questions intimately related to the ætiology of infectious diseases and to the immunity acquired by prior attacks. The doctrine of cell antagonism, while a well established physiological fact in which the phagocytic action of leucocytes is universally admitted, is not conclusively proven as regards micro-organisms. Metschinkoff and his follow-

ers claim that not only leucocytes, but the fixed connective tissue cells, and the giant cells of the liver and lungs, are most active phagocytes. The recent experiments of Nutall, Bechner, and Prudden, show that the blood serum and serous fluids possess a germicidal power exceeding the phagocytic property of blood or tissue cells—a property in some way dependent on their albuminoid constituents, and of sufficient importance, as Prudden remarks, to call back the attention of the therapeutical adventurers from germicidal warfare to what appears a natural defense of the organism against bacterial invaders, viz.; a healthy condition of the blood. Conditions have much to do with bacterial activity. It has been noticed that bacteria that had no effect on healthy animals, excited disease and grew and developed in those slightly deranged. By increase in numbers alone the body resistance may be overcome, and even non-virulent microbes in sufficient numbers may cause death.

It is also true that similar groups of disease may be associated with wholly different microbes; and that harmless organisms may, under certain conditions, acquire virulent properties, is probable. From what has been said, it would seem many other and more important elements of disease exist than micro-organisms. Not only is it not proven that bacteria are the prime causes of epidemic and infectious diseases, but their existence is not satisfactorily accounted for. It is by no means certain whether microbes are the cause of diseases in which they are found, or only scavengers incident to the process. We know so little of their relation to the bodily tissues that we cannot tell why so many times pathogenic microbes do no harm, or how they disappear from the blood or in the glands. It is a question whether without a primordial generating cause the microbes of a specific disease would exist at all. In the language of Semmola: "The error of the day is in considering bacteriology the key to all pathology. Doctors conclude that the microbe is the cause of the condition, whereas it is many times only the effect." Certainly it is fully as important to study the field of culture as the microbe itself.

It was in the field of surgery that the germ theory first won its laurels. For a long time Listerism and strict antiseptic details held sway. One feature after another has been abandoned until the views of fifteen years ago have undergone very radical change. One of the first notions abandoned was peritoneal antisepsis. Now few, if any, advise antiseptics in abdominal surgery—at least in the peritoneal cavity. Bantock uses no antiseptics whatever, not always boiling the water used. He says "water fit to drink, or for household use, is good enough for surgical use." Yet his mortality without antiseptics was four per cent. against an average of 17 per cent. with antiseptics. Lister himself has abandoned the spray, and many of the devoted adherents of Listerism have given up details which were once thought to be essential.

Once it was thought beyond dispute, that pus formation was solely and only caused by bacteria. The dictum "*no micrococci, no pus*" was accepted as final. Dr. Hoitzman, an enthusiastic bacteriologist, says in the Medical Record for May, 1890. that pus cocci are present nearly always, but the axiom *no suppuration without micro-organisms* is not strictly correct, and the question is yet an open one. M. Steinhaus, in a long series of experiments on dogs, cats, Guinea-pigs, and rabbits, refutes the idea that microbes are necessary to the formation of pus. Although staphylococci are generally found in acute suppuration, yet it has been shown that subcutaneous injection of pus cocci caused no suppuration. In cases of subcutaneous lesions, injections into the cellular tissue or into the veins of pus cocci, were shown to have no tendency to collect about these spots and form pus. Rinnê found also that pathogenic bacteria rapidly lose their virulence in the blood. Recent experiments have shown that chemical agents, traumatism, and similar causes, may excite suppuration without the presence of microbes, and that the pus cocci often fail to set up suppuration when injected into the tissues. In dry gangrene without open lesion no bacteria are found. Dr. Hamilton in an address before the Surgical Section of the British Medical Association, says pus in closed cavities does not contain the characteristic microbes of acute suppuration. This is why pus under these conditions produces little or no disturbance; when exposed to the air and decomposition begins with the development of microbes, then the micrococcus finds a congenial soil. Rinnê says that ptomaines and the generation of chemical poisons have an intimate relation with the suppurative process.

In normal blood micro-organisms do not exist, and in view of the marked germicidal action of the blood and tissues, the theory of Verneuil, "that microbes remain latent for years in tumors or in the cells of connective tissue or serous structures" seems far-fetched and doubtful. The most radical germ theorists admit the influence of conditions; bacteria which cause septicæmia in house mice are said to be inert in the field mouse. The germs of splenic fever are little destructive to Carnivora. Concentration in one spot, and above all the condition of the tissue cell, is important. It is said the benefit derived from nitrate of silver in purulent inflammation of mucous surfaces is because it destroys the weak cell on the surface that cannot risk bacterial invasion. It should not be forgotten that

agents that can destroy bacteria can also kill or impair the tissue cells. To kill microbes with the weakest solutions of germicides compatible with the integrity of the tissues, requires hours of contact. Carbolic acid of sufficient strength to disturb bacteria, suspends the molecular activity of the cells, and paralyzes nutrition. It is a pertinent query whether many of the antiseptics in daily use injure most the microbe or the tissue cell. In their struggle with microbic invaders the body cells may aptly appeal to the surgeon in the prayer of the bear hunter: "O Lord if you can't help me, don't help the bear."

Experience has shown that germs collect but slowly from the air. Irrigation kills or washes them away and is no doubt useful. Dr. Lenger, in experiments on animals with small quantities of antiseptic agents in common use, found they very generally produced pathological changes in the viscera. He advises that all antiseptics be discarded in operations involving any of the viscera. We may never know the extent of damage done by the agents employed to kill micro-organisms, but that it is not inconsiderable is very probable. Is it not safer and fully important to secure such a state of the tissues that germs will find no pabulum for their sustenance? It is only in contact with dead matter, or living organic material of altered or impaired vitality, that they can thrive. No question exists of the benefits which have followed the practice of Listerism, or antisepticism. Have good results followed the action of germicides, or has the greater care taken to remove all foreign matters, blood clots, etc., from the wound, to secure perfect quiet by the natural and infrequent change of dressings, the free drainage keeping the surfaces dry, with all the painstaking minutiæ of antiseptic methods, been responsible for the improvement? That bacteria may set up putrefactive changes, three factors are essential, viz.: Organic matter, dead or devitalized; heat, and; moisture—material necessary to their growth. It follows that repair is aided by close adaptation, quiet, dryness of the surfaces, and absence of hot, moist surroundings.

The microbe just now attracting most attention is the bacillus tuberculosis. This, it is claimed, is the sole cause of tuberculosis. As a corollary follows the proposition that all forms of phthisis are caused by the tubercular bacillus. "All forms of phthisis probably are due to the presence of tubercle, and all tubercle is the outgrowth of bacillus tuberculosis; without the bacilli, however depraved the constitution, there will be no tuberculosis." This statement, contained in a recent address on Pulmonary Consumption, before the New York Academy of Medicine, fairly states the doctrine.

But is the bacillus the sole cause of tubercle?

The proof of this assumption rests upon the fulfillment of three conditions:

1. The bacillus must always be present in tubercle:

2. It must be found nowhere else:

3. Inoculations of pure cultures must always produce tubercular disease.

Have these conditions been established? In the dense fibrous form of tubercle found in the lungs no bacilli have been found in a large number of cases. In some instances they were found in the alveoli near tubercular deposits, but not in them. Prudden found them most often in disintegrating structures in the lungs and intestines, but found many cases of diffuse tubercle when no bacilli could be discovered. He also says the appearance of the parasite in the sputum is no evidence of the parasitic origin of tubercle. Draper says bacilli are not found in the early stages of tuberculosis. Gibbes found bacilli in only one of ten cases of reticular tubercle, which is said to be the typical form of tuberculosis. He also states that in several cases of pulmonary tuberculosis with large cavities, not a single bacillus could be found out of several hundred sections examined. Many cases of like import might be adduced if permitted. Sternberg says it is probable that the tubercle bacillus is often found in the buccal and nasal secretions of healthy persons. Yet tubercular disease of these localities is rare.

Tuberculosis has been found associated with other microbes than the Koch bacillus, and has been produced by inoculation of cultures in the same manner. Courmont and others found a microbe, cultures of which produced tuberculosis by inoculation, and in which the microbe was found in the blood of the animal. An organism obtained by Manfredi caused by inoculation, a deposit of grayish or yellowish-gray nodules consisting of newly formed cells which began to soften in the center.

Again there is a question whether the symptoms produced by inoculation are the result of the bacillus, or of some principle undetected in the cultures, as in the jequirity cases above mentioned. It is asserted that the identity of the lesions from inoculation, and those of human tuberculosis, is not established. There is much to show this.

Many authorities deny that the inoculated product is identical with either the reticular or caseous form of human tubercle. The animals experimented on are peculiarly liable to tubercle, but the tuberculous nodules found in the viscera of inoculated animals are not at all like tubercle found in the human lung, but are identical with those found by Ziegler as a result of mechanical irritants, and sometimes found in ordinary inflammatory deposits.

Gibbes states he has never found the bacillus in the early stages of nodular formation, but only after it became caseous.

Much more evidence might be adduced in this direction did time permit, but enough has been mentioned to warrant doubts of the correctness of the doctrine that the bacillus is always the antecedent or even the necessary compart of tubercle.

It is common for the adherents of the bacillus theory to ignore or denounce all conclusions at variance with their opinions. In this manner have been treated the investigations of Spina, Formad, Gibbes, and many others, to which must be added the recent work of Aufrecht, a co-worker of Koch. Too formidable an array of sceptics exists to be silenced in this manner. We are led also to doubt from other considerations having a less direct bearing. If the bacillus is the sole cause of tubercle it would seem impossible that it should not be more widespread than it is. It has been estimated that a phthisical patient will throw off 72 *billions* of bacilli each twenty-four hours. A case of acute miliary tuberculosis of the peritoneum with no tubercle elsewhere in the body, was reported to a New York Society not long since. The bacilli of leprosy and that of tubercle are not distinguishable, or with difficulty, from those of lupus. In the one case they produce no general infection; in the other it is found.

Many cases of tuberculosis recover spontaneously. Dr. Loomis found evidence of former tubercular deposits in the lungs of 60 per cent. of autopsies at Bellevue. A curious comparative fact is, only about 10 per cent. of cases treated recover. The theory, if established, has no value in prognosis. Baccilli are found in large numbers in cases with moderate or no physical signs, and which recover; and they have been found in small proportion in grave cases that terminated fatally; generally they are in proportion to the extent of the destructive process, and not to the amount of tubercle. The *bacterium termo* has been found to diminish the proportion of bacilli in the sputum, presumably by destroying them, but without causing any improvement in the symptoms. Neither pathology or therapeutics has gained anything by the alleged causal relation of bacillus to tubercle.

From what has been stated it must be inferred that the unity of phthisis and tuberculosis is not established. We are yet compelled to say, with Virchow, that "phthisis is a multifarious process, and that much more is necessary to understand it than to discover a microbe." The clinical history, and a study of the varying lesions of pulmonary phthisis, are irreconcilable with a belief in the unity of cause. We must still regard this disease as an inflammatory one, in the course of which tubercle or other forms of mal-nutrition may occur. Nothing has been, or is likely to be, found that will destroy the bacillus, that is not also destructive to the tissues. Not only has therapeusis gained nothing in the discovery of the bacillus, but it has probably received injury by diversion of attention from means and ways employed to strengthen the citadel against the approach of the enemy. Here again we must look for aid to nutritive conditions; the factors which give immunity in one case, or predisposition in the other, are of increasing interest to us. The strongest advocates of the bacillus doctrine admit the importance of conditions; some form of irritation or mal-nutrition is essential to furnish a soil for their development and growth. "Ay, there's the rub." It is not bacilli that are transmitted by inheritance, but impaired tissue, a lowered resisting power, and an increased susceptibility to morbific processes. Loomis says there is always a period of general impairment of nutrition which precedes bacilli infection. Dr. Marquay aptly says: "To cure mal-nutrition is to cure phthisis." The many cases of spontaneous cures have resulted from improved nutrition rather than from bacterial destruction. It is more important, in the treatment or prophylaxis of phthisis, to nourish phagocytes than to try to kill the bacillus—to strengthen the resistance rather than try to destroy the invader. We would not underrate the possible advantages that may come from the discovery of the tubercle bacillus, but as yet very little positive benefit has been derived; and until its relation to the tissues and to the disease in question are more fully established, we would counsel conservatism as in the case of other microbes considered. A condition of lowered vitality or impaired cell activity is necessary to furnish a nidus for their development. Without this they are of but little importance. Is it not wise to devote more attention to securing resisting cell power than to search for germicides? Is it wise to abandon the accumulated clinical experience of ages past, and enter on a fruitless chase after a microbe which may prove only an incident, and perhaps not an essential one, in a complex nutritive disorder?

TOLEDO, OHIO.

TREATMENT OF BRIGHT'S DISEASE BY SODIUM CHLORIDE.*

BY ALLARD MEMMINGER, M. D. †

The subject of Bright's disease has to me a special interest, and that, no doubt, from the fact that much of our knowledge in regard to it is alone attainable in the chemical labora-

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tory. For some time past I have endeavored to reconcile to my mind the various views held by distinguished teachers in this country and in Europe as to the real cause of albuminuria. In following them, however, I have found myself pretty much in the position of the Indian who, when told that the world stood on the back of the tortoise, pertinently inquired, "Upon what does the tortoise stand?"

This indeed appears to me to be the legitimate consequence of following too closely generally accepted ideas, and notably that distinguished teacher and author, Prof. Alfred L. Loomis of New York, who, when speaking of the morbid anatomy of chronic parenchymatous nephritis, says: "It is almost always the legitimate consequence of depraved cell development, and it may make its appearance in any form of renal lesion in which there is protracted interference with the normal nutrition of the tubes."

Although this, of course, is true, we with great deference would go a step further and incline to the views of Graves and Prout, who explain this depraved cell development by the assumption that it is due in the first instance, not to alteration in the structure of the organs that secrete the urine, but rather to the abnormal composition of the blood, or else perverse action on the albuminous element of the blood serum.

It was from this standpoint, therefore, that I was induced to try experiments with the chloride of sodium, and, if I only here refer to cases which have been intrusted to my care, I trust I may be pardoned for apparent egoism, since the paucity of literature on this therapeutic agent renders statistics collected from the experience of others almost impossible.

It will not be out of place, before entering upon my plan of treatment of chronic Bright's disease, to review the history and physiological action of the agent employed, and thereby draw attention to its probable medicinal virtues.

The economic and dietetic action of chloride of sodium has been known from the remotest antiquity. Pliny, for instance, after speaking of its wonderful influence in grazing animals, adds: "*Ergo hercule vita humanior sine sale non quit degere: adeoque necessarium elementum est, ut transierit intellectus ad voluptates quoque. Nam ita sales appellantur.*

Dioscorides also writes that "It preserves animal bodies from putrefaction and decay for ages; it is stimulating, cleansing, and resolutive, curing ulcers and swellings of the throat, tongue, and mouth, and healing a variety of cutaneous eruptions." And finally, the Arabians extol its dietetic virtues by adding that it "sharpens the appetite and promotes digestion."

If, now, we leave history, and turn to its physiological action, it will require but little attention on the part of the reader to see why it acts as a remedial agent in Bright's disease of the kidneys, as considered from our standpoint, viz: That it is a systemic, rather than a special, localized depraved cell development of the tubules of the kidney, of the stroma, or else of the blood-vessels of the same. That this change, however, does take place in the parts we have mentioned, we do not gainsay; but that it is alone an affection of their structure, we are disposed to consider debatable ground.

Chloride of sodium, when taken into the animal economy, has an immediate and a remote action; a portion of the salt may be absorbed immediately by the stomach, but again another portion unquestionably is decomposed to form another sodium salt and hydrochloric acid. The latter, a normal ingredient of the gastric juice, serves directly as a stimulant to the secretion of the glands, facilitates digestion, and excites the appetite. The superabundant acid that flows into the intestinal canal unites with the sodium of the bile, which it meets in the duodenum, forming chloride of sodium again, which in turn is dissolved in the fluids; and here now begins its chief function, which consists in the osmosis or endosmosis from the surface of the intestines into the villi and blood-vessels, from the villi into the blood, from the serum of the blood into the blood-corpuscles, and finally from the corpuscles into the tissues, and then, by a process of exosmosis, back again.

Thus it will be seen that it is *alone* the salt which renders possible the processes of development, progressive and retrograde; homogeneous albuminoid substance can alone penetrate cellular walls by the aid of crystallizable substances in solution; and again, the metamorphosis of albumen being greatly increased by their presence, the amount of urea and carbonic acid gas will, in like proportion, be increased. Finally, it augments the parenchymatous fluid, renders the freer use of water necessary, slightly increases the temperature, and promotes and quickens tissue change everywhere.

Looking now from this physiological standpoint, I must confess it appears to me quite easy to explain the good effects of salt in Bright's disease of the kidneys.

It has been well said that, could we increase the albuminoids, or rather, I should say, modify their absorption by the blood, we should be in a position to treat this formidable disease. Have we not, then, before us, I ask, an agent which, though not directly adding albumen to the circulation, so modifies or renders possible of absorption by the blood the plastic elements of nutrition, that it stays the wear and tear on the system, and by its presence so increases molecular cell activity that the albumen of the

urine gradually diminishes, and gives place to less irritating and harmful products, which in turn are washed away by the increased flow of urine?

Taking this view, I was induced to test the effects of the chloride on persons unmistakably affected with Bright's disease. I regret to state that thus far my cases number four only; and though fully aware that it will not do to argue on too contracted and few premises, I am convinced of the merits of the treatment from the fact that in these cases an immediate amelioration of all the symptoms occurred.

Three of the cases were among those I treated at the Roper and the Charleston City Hospitals during my term as visiting and attending physician of these institutions this past spring. In each there was such a marked improvement that the patients left the hospital before their "discharge." Up to the time at which I instituted the chloride of sodium treatment, the patients were evidently on the downward grade, and their immediate response to the new treatment was, therefore, so much the more striking.

In each case I would not permit anything else to be given either in the way of tonics or stimulants. But a good liberal diet was allowed, and, though this produced no effects before the chloride was given, it immediately showed after the salt had been taken for a short while. My notes show the average time at which improvement began, to be about ten days.

The fourth case being in my private practice, I shall have an opportunity of seeing if I effect a permanent cure; at present, however, I have every reason to feel quite sanguine, as I see therein much the same order of things as in my hospital cases. I have pursued the same line of treatment in that I have used the chloride, together with a liberal diet of milk, eggs, beef, chickens, etc. No tonics or stimulants of any kind have been employed, and, though both, together with the same liberal diet, were taken by this patient prior to his consulting me, he informs me that up to now he derived no manner of benefit therefrom.

Before preceding to my plan of treatment I will state that, while giving the chloride in the manner hereinafter stated, three important conditions of the urine were observed:

1. Albumen decreased.
2. Urea increased.
3. The chlorides increased to a very marked extent.

Now for my mode of treatment: The patient being brought as rapidly as possible under the influence of sodium chloride, is kept there by gradually decreasing doses. At first I order ten-grain doses in gelatin capsules, three times a day, and, if the state of the case allows, by preference one hour after or before meals. I generally reverse each day the order of giving: Thus, if one day the capsules are given before meals, the next day they are prescribed after. If the patient does not complain of nausea, I allow him to keep about; but at the slightest intimation of a sick stomach, I order him immediately to assume the recumbent posture, and there remain for an hour or so, after which this temporary ill feeling always subsides. The second day of treatment I increase the dose to two capsules three times a day, and every other day I increase by one capsule, until the patient is taking five capsules three times daily. About this time the good effects of the treatment will be apparent, not only from the improved subjective and objective symptoms of the patient, but from the improved condition of his urine. Albumen will, of course, at this period, be still found in abundance, that is, if the case is at all a grave one; even here, however, if we institute a gravimetric examination, will be found a decided improvement, not so much in the absolute as in the relative decrease in albumen.

At this juncture I order the chloride to be diminished in quantity, and have so far found, that after the system has thus been brought fully under its influence, but two capsules, three times a day, are required to keep up the desired effect. If at this stage there is any decided nausea or disinclination to the medicine, I suspend it entirely, and during the interval give one or two alterative pills, after which I order again a resumption of the chloride. Should albumen again increase in the urine, urea and chlorides diminishing, I immediately resort to large doses, thus bringing the patient once more under the influence of the drug, after which I again reduce.

The effects of this treatment, as I have said, are most marked. Headache, œdema, low spirits, general weakness, and anæmia, give way to just a reverse order of things, and the patient, who a few days before was most gloomy and despondent, is now full of life and hope

Thus, I must say, has it appeared to me in each of my four cases and, if I have been led to express views that to many may appear extreme, it is because my convictions are based upon clinical observations which, up to this time, I have never had the pleasure of recording with any other form of treatment. I would, therefore, urge a thorough trial of this therapeutic agent by the profession on the following grounds:

1. It is harmless if properly administered.

2. Its effects are comparatively uniform, provided it is given for a sufficient time; that I have so far used it only in chronic cases of no long standing, does not in my opinion militate against its beneficial effects, for, even should it not be found a cure for Bright's disease, may it not become an important article in our medical

armamentarium, indeed, if only an ameliorator of man's sufferings and a prolonger of his life.

3. It may be employed as an adjunct to all recognized methods of treatment without detriment to the patient.

Having given thus the general plan of treatment, I can only add that I now strengthen its action by using along with it Vallet's mass in doses of one grain three times a day. I still use large doses of the chloride in case of diminished secretion, especially when urea falls below the normal average. After this the treatment is changed somewhat, in that I then use only ten grain doses of the chloride in conjunction with one grain of Vallet's mass, three times a day.

That this special mode of treatment is good in all forms of Bright's disease, I am quite positive; excepting, however, well marked cases of *capillary arterio-fibrosis*, which necessarily eventuate in atrophic degeneration of the kidney.

From my more recent investigations, I am led to believe that in incipient Bright's disease the chloride acts as a curative agent, and that if prescribed in the early stages it will prevent the further degeneration of the blood, and consequent change in the normal excretory products of the kidney. I may further add that, from a trial of iron by itself in those forms of anæmia associated with albumen in the urine, diminished excretion of urea, and a specific gravity ranging from 1010 to 1018, I am led to believe that eventually it will be considered quite a different pathological condition of the blood; indeed, a condition in which the chloride is needed, after the supplying of which, iron will relieve the anæmic condition.

In regard to food requirements, I consider (from a limited experience, it is true), that a chloride diet is urgently called for; olives, salt fish, salt meats of all kinds, and skimmed milk to which a pinch of salt is added, should be freely given. This last treatment, which originated with Donkin, in a great measure, owes its success to the large quantity of salts in the fluid; if therefore to this is added a little more salt, why then a potent remedy becomes still more powerful.

In conclusion, foregoing the recital of a number of cases which I have treated with marked benefit since my first trials with sodium chloride, may I not reasonably ask my medical brethren if such an array of facts, coupled with the well known physiological action of chloride of sodium, does not demand a trial of this treatment in this most formidable disease?

CHARLESTON, S. C.

THE RESOLUTIVE ACTION OF SIMULO IN SALPINGO-OVARITIS, ACUTE OR SUB-ACUTE.*

BY DR. V. POULET.

The name "abdominal plastron" has been given to a pelvic tumefaction situated above the Fallopian ligament, the signification of which has for a long time been very obscure. According to M. Terillon, and I share fully the opinion of this distinguished master, this phenomenon is always the result of a salpingo-ovaritis.

This malady is very frequent. It will be observed in general in young women, following the puerperal state, at varying intervals from the time of confinement; and I shall mention two cases, in which it manifested itself in young nubile girls. In the greater number of cases, the beginning of the malady has been characterized by a metrorrhagia coinciding with the menstrual period.

The duration is usually long. It is vain to attempt to mitigate the disease by a treatment rational and appropriate; at each menstrual period, despite the efforts made beforehand and the benefits obtained, it is invariably aggravated. We can thus comprehend without difficulty the persistence of the inflammatory accidents in organs which, each time, become again the seat of a congestion, however physiological in character it may be. Under this influence, the ovaritis undergoes of necessity a series of grave relapses.

Not only with respect to its duration, but also, to its most common termination, does the diagnosis of salpingitis bear with it a certain gravity. The occurrence of local peritonitis is very common during its evolution, proceeding, partly, from the fact that the orifices of the tubes open into the peritoneum. This inflammation of the adjoining region is accompanied by pains (occasionally very violent), vomiting, constipation and fever; and the repetition of these complications, gives rise to an anæmia which, in turn, produces a very obstinate dyspepsia prejudicial to nutrition, and there results a veritable cachectic exhaustion which ends by producing death.

At other times, the exhaustion is caused by the persistence of the hæmorrhages, whether continual or periodic. Finally, in a certain number of cases, the danger is caused by the formation of purulent centers or foci, more or less voluminous, habitually numerous, which if they do not determine the bursting out of a hyper-acute peritonitis, rapidly fatal, give rise to a consumptive fever, and finally permit no other chance of recovery than by a liberating laparotomy.

Under the most favorable circumstances the

*Translated for the MEDICAL AGE by Mr. Jos. Helfman, Detroit.

patients are condemned to an almost complete inaction, and drag out a miserable existence during the remainder of their lives.

Independently of the formidable issue of the transformation of the disease from inflammatory salpingitis into suppuration, the long duration and chronicity of the malady, the sufferings which follow in its train, the emaciation which is one of its consequences, leave no other than a radical intervention to be indicated. In deferring the latter too long, we run the risk of permitting a pus sac to form, adhering to the peritoneum and rendering extirpation as difficult as it is dangerous. Hence, there should be no temporizing. Laparotomy with removal of the diseased organs, is usually the sole resource that remains when it is no longer possible to check the malady in its first stage.

The mortality of salpingitis left to itself, according to Lewers, is 24 per cent.

During the first stages of the malady, what are the therapeutic means which science affords for preventing chronicity and suppuration of the inflammatory tumor? These are antiphlogistic, resolutive, purgative, baths simple and thermic, hydrotherapy,—to which I must add cutaneous revulsives, notably vesicatories, which several practitioners have greatly commended. The preparations of ergot, the salts of gold, hemlock, and other remedies, have been praised at various times, but have not yielded a sufficient number of good results to cause their general practical adoption. For these, I to-day propose to substitute a new agent which, conditionally on its employment at the very beginning, possesses the most remarkable efficacy, and constitutes a weapon of marvelous power. In all the cases wherein I have had recourse to it, it has enabled me completely to abort the malady, and I have grounds for the hope that its general employment will restrict to a very small number of cases the harsh necessity of surgical intervention.

The Simulo, the new remedy to which I have reference, is a *Capparis* which grows in Peru and Bolivia; species not yet determined. It was at first believed to be the *Capparis coriacea*, and this was the opinion of Mr. Hale White, Professor of Materia Medica at Guy's Hospital, who introduced this product into the therapy of epilepsy. But Prof. Baillou maintains that the *Capparis coriacea* is a species peculiar to South Africa, and that the *Capparis* of South America is not to be confounded with it. I have in my possession a green leaf, and some fruits, for which I am indebted to the house of Thos. Christy, of London. The leaf, briefly petioled, entire, oblong, of a green color, is 3 centimetres long and 15 mm. wide. The fruit is a berry, borne on a tolerably long pedicle, of the size of an olive, brownish red in color, enclosing a somewhat soft pulp sometimes of a pilular consistence, and a tolerably large number of white seeds on the inside, devoid of albumen, with curved embryo and folded cotyledons.

Usually this fruit can be converted into pills without the use of any excipient; if not, it may be necessary to add a small proportion of honey, and to this preparation I have ordinarily given preference. However, at the beginning of my experiments, not having the fruit itself at my disposal, I employed exclusively the tincture (1:8).

After having applied the Simulo, not without success, to the treatment of non-convulsive hysteria and hysterical chorea, I obtained excellent effects in a certain number of cases of ovario-salpingitis, as follows :

1. Madame Marie R—, aged 36, mother of four children, blessed with a good constitution; has never had any other illness than small-pox, numberless scars from which she still bears on her face. Her last confinement occurred three years ago. The 16th of September, 1889, she commenced to have her courses, which from the time of their appearance were more profuse than ordinary. Toward the close of the catamenial flow she felt violent pains in the right side of the abdomen, extending as far as the forepart of the thigh on the same side. The suffering was such that instinctively the patient bent her thighs over the pelvis to diminish the tension of the wall of the stomach, and in consequence the tension on the affected organs. The pains increased in number and severity, and were accompanied with fever, nausea, loss of appetite, constipation and agrypnia. I was called on the 20th, after the cessation of the menstrual flow, and could easily diagnose, besides the symptoms cited and the saburral state of the tongue, the presence of a voluminous plastron above the right Poupart ligament. The tumefaction had already assumed the size of a large orange; was fixed, not pediculated, hard, and extending inward and somewhat upward, penetrated the true pelvis.

By making a vaginal examination with the right index finger, taking care to have two assistants hold the thighs separated, and pressing the left hand on the hypogastric wall, I was able to discover at a short distance to the right of the womb, a small tumor, sensitive to pressure, elongated and rather mobile. I concluded that it depended on an engorgement of the right tube, and that the abdominal plastron was due to that of the corresponding ovary. Pulse, 90; temperature, 38°,3.

Treatment, purgatives, mercurial friction, belladonna, seitz-baths.

On the 22d, no change; the pains still intolerable; the tumor exquisitely sensitive to palpation. Vomited several times. It was then that, abandoning the classic treatment and renouncing even the application of leeches, I pre-

scribed solely the tincture of Simulo in doses of 3 to 4 grammes per day.

Scarcely had the first doses been administered, when the patient joyously declared the relief to be complete. And not only did the pain disappear suddenly from the first day, but the resolutive action soon became manifest. The tumefaction diminished rapidly in volume, at the same time became indifferent to the touch, and in less than ten days the patient was convalescing. The 15th day from the beginning of the attack she resumed her habitual occupation, and from that time the cure has proved permanent.

2. Mlle. Julie G—, 16 years old, worker in metals, good constitution, has menstruated for two years; suffered an attack of tonsilitis the year before; became sick July 2d, 1889, just at the time when her menses should have appeared. She came to consult me at a distance of several kilometres without requesting a visit, attributing her pains to dysmenorrhœa. I contented myself with prescribing for her my emmenagogue potion, composed of oxalic acid, 2 grammes; syr. orange peel, 75 grammes, and infusion of black tea, 120 grammes; a spoonful every hour.

The effects were soon observed. The flow appeared, and was even more abundant than usual, but the young girl continued to suffer horribly; fever, loss of appetite, vomiting, constipation and absolute insomnia.

Called in on the 6th of July. I decided that the cause of the symptoms resided in the development of a right salpingo-ovaritis, forming a voluminous tumor above the ligament of Poupart. Very sensitive to the least pressure, this extended as far as the parts adjacent to the median line, and involved the true pelvis The pains provoked by the inflammation of the right annexes of the uterus were so intense as to oblige the patient to hold the thighs constantly bent on the abdomen. I do not know what information would have been supplied me by the touch, for I thought it proper to abstain therefrom with so young a girl. I applied ten leeches over the iliac region, and poultices of linseed; and as the tongue was very much coated, for the next day I prescribed a purgative, with a mixture of equal parts of calomel and resin of jalap. I further prescribed the external application of mercurial belladonna ointment, and a strict diet.

On the 8th the pains were just as unsupportable; the night passed in sleeplessness. Shortly before I had administered baths, and continued the antiphlogistic treatment; but knowing from previous, conclusive experience the efficacy of Simulo, I again had recourse to the tincture of this fruit, which I gave in doses of three grammes per day. The effect was prompt and decisive. The very first day the pains were entirely soothed; the young sufferer could again enjoy sleep, and in a few days resolution of the ovarian engorgement was completed.

On the 11th of July, the patient was fully convalescent, and there remained only slight traces of the abdominal plastron.

3. Delphine L., aged 17, worker in metals, pale complexion; had menstruated since the age of 15; having lost her father from pulmonary phthisis, she complained during all of last winter of a pain above the right groin when walking. On March 24th, 1890, she began to suffer from a feeling of cold and chill, cephalagia, general *malaise*, and very painful colic. Menses appeared on the 26th, but without affording relief. I was called in on the 29th, at the end of her menstrual period, and found her a prey to fever, insomnia, anorexia and extremely violent pains appearing in repeated attacks, and seated at the right of the lower part of the abdomen. Pressure on the iliac region was intolerable, and digital examination permitted me to diagnose the presence of a voluminous abdominal plastron two finger-lengths above Poupart's ligament. The tumefaction was larger than a fist in volume; it was fixed, hard, and involved the true pelvis. In this instance touch was not resorted to, for the same reasons as in the preceding.

Treatment: I began by administering a purgative of calomel to overcome the state indicated by the coated tongue, which was very striking, and from the 31st I administered the Simulo in pills of 24 centigrammes each, in doses of five per day.

The 1st of April, I had the satisfaction of observing that the pains had entirely ceased since the taking of the first pills. The ovarian tumor could be touched and pressed without exciting the slightest sensibility. The night nevertheless was still passed in insomnia, the tongue was white, and the pulse always at 85. This young patient, who had suffered horribly before beginning the Simulo treatment, was delighted with the result of employing the pills. Continuation of the same remedy.

On the 3rd of April, sleep was excellent; the engorgement had undergone considerable diminution; but the constipation persisted, as did also the saburral state of the tongue.

Treatment: Resin of jalap 0.80 grammes; then take the Simulo.

On the 6th of April, the patient rose, fully convalescent; the tongue was clean, the pulse 60; the abdominal plastron had entirely disappeared.

It is to be noticed that the three preceding observations deal with ovaro-salpingitis of the right side. Accordingly the right side would appear, more than the left, predisposed to inflammation of the uterine annexes. But nothing can be conclusively inferred from so small a number of cases. By examining the

resumé of 50 laparotomies, performed by M. Terrillon for ovaro-salpingitis (paper read before the Academy of Medicine, May 28th, 1889) it will be seen that the two sides were attacked at the same time. However, I am disposed to to think that at the beginning these cases of double salpingitis have mostly been initiated by inflammation of only one side, and that the inflammation extended to the other only in consequence of the insufficiency of the treatment, which was incapable of checking the acute stage in time.

My first observation deals with a married woman, mother of several children, belonging in the category of ordinary cases in which the causes that predominate are, according to MM. Boivin and Dugès, corpulency and confinement. The two other instances relate to young nubile girls, and coincided with an unusual abundance of catamenial flux. In all three, I had to deal with a catarrhal salpingitis, possibly hæmorrhagic, characterized by a distension of the tube and a greater or less enlargement of the walls.

I abstained from resorting to the touch with the virgins, because, while it would furnish information of undoubted value, it was not indispensable to cure; with the patient of observation 3, it was not necessary to resort to anæsthesia; it was sufficient to proceed with all the care required by exaggerated sensibility.

I have always taken care to act in good season, and that is a chief condition of success, as will readily be understood. Indeed, it is necessary to avoid suppuration at all cost; now, this mode of termination manifests itself toward the fifteenth day, and often becomes unavoidable much sooner. There is, therefore, no time to lose. Induration—the other termination much more rare from ovaritis, and nevertheless incontestable—would certainly be much less to be feared. However, it would be almost equally grave in its consequences, for in passing into the chronic state, the malady would not fail to exhibit a much greater tenacity.

The efficacy of Simulo in the three preceding cases is not to be doubted. Several modes of treatment had already been employed without producing any relief whatever. On the administration of the Simulo, however severe had been the paroxysms, the fever at once receded, the pulse lost its frequency, the meteorism gave way, and especially the pains, previously intolerable, disappeared without returning.

The phenomenon of "suggestion" cannot be cited here, for the patients were not informed of, and could not suspect, the change of the medication to which their affection was subjected. Besides, who would believe that suggestion could effect the re-solution of inflammatory maladies like salpingitis? Rather let that apply to affections *sine materia* of neuroses, neuropathies and ill-balanced organizations subject to the numberless perturbations of the nervous system.

The resolution of the ovaritis under the influence of Simulo was several times manifested in the fifth or sixth day of the malady; ordinarily, toward the eighth day. No other treatment gives so desirable a result. I cannot, therefore, too strongly urge the practitioner to essay the employment of an agent so powerful, which has proven its worth in my hands, and which in salpingo-ovaritis, as in hysterical chorea, has no equal.

PLANCHER-LES MINES, FRANCE.

THE THERAPEUTIC ACTION OF ALCOHOL.

BY PROFESSOR JULES SIMON.*

Alcohol, from the point of view of its effects on the economy, may have the following rôles:

1. As a stimulant to the circulatory, respiratory and cerebral functions:
2. As an aliment:
3. As an antipyretic.

With regard to the latter, we know that even in small doses, alcohol lowers in an appreciable manner the central temperature. At the same time, take a patient in a state of collapse and algidity, after having been exposed to an intense and prolonged cold, or under the influence of some other cause, give him a little alcohol, and we often see the temperature speedily return to the normal. This is an apparent paradox I will make plain.

That which in these circumstances causes the algidity, is the depression of the great functions; it is the general languor of circulation, respiration, and nutrition; and lastly, by the exhaustion of the nervous system in its rôle of regulator of animal heat, the organism is abandoned without defense to the external causes of refrigeration. The alcohol administered under these circumstances, in suitable doses begets an energetic stimulation of the circulation and respiration, and causes the blood to flow in greater quantity into the tissues. The blood supply is renewed more rapidly; hæmatosis is more completely effected; the sources of calorification regain their activity; and everything is restored to its normal conditions. We see, then, that this clinical fact, far from being opposed to physiological data, is entirely conformed thereto.

Alcohol from a therapeutic point of view may be employed locally or generally.

Of its local use I need say little. It is employed externally by frictions to joints after sprains, and to bruises; as a means of stimulation after convalescence from diseases; in

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chlorosis and other states characterized by feebleness—most of the liniments which are applied at such times contain alcohol as their principal ingredient. It is also used in the dressings of wounds and ulcers; for injection in cysts and cold abscesses; and its antiseptic properties, under the form of irrigations, etc., are often utilized in gangrenous affections, in ulcero-membranous stomatitis, and in diphtheritic angina.

Of the internal uses, I must say a word or two about certain applications to the newborn. An infant has come into the world in a state of apparent death; the physician has been able, by artificial respiration, to bring about some signs of life, but the babe remains so feeble as to be incapable of taking the breast, and the absence of nutrition seriously compromises the already precarious vitality. Here we do not hesitate to have recourse to wine and water, and give it freely; we make the infant take by the teaspoonful, every quarter of an hour, Malaga wine diluted with eight times its bulk of warm water. At the same time, if possible we may give a bath of wine, or apply brandy and water externally. In this way we rally and recruit the failing forces of the child.

We often meet with naturally feeble infants, that after a night of restlessness become pale, unable to take the breast, and are obliged to restore them by the means just indicated as suitable in the extreme debility of the newborn.

But it is in the diseases of the respiratory apparatus that alcohol finds its most important indications. Those in which it ought to be employed in preference to any other medication are: Capillary bronchitis; bronchopneumonia, and; pneumonia. I cannot too greatly enjoin the necessity of laying aside all medicines which depress the forces, such as aconite, tartar emetic, veratrum, etc.; they only oppose the end we have in view,—and despite the ideas that may previously have been formed regarding inflammatory processes in general, I say: *Give alcohol!* It agrees marvelously with the other methods of treatment, such as the repeated vesicatories on which so much depends. At the beginning and at the end of the affection, an emetic may do good; but when the disease is declared, there is no longer any justification for such treatment.

The alcoholic preparations best to employ are, pure brandy and whisky (rye), old rum of a fine quality, and wine, especially Malaga. Of brandy, a quantity equal to fifteen to thirty grammes in the 24 hours may be given to a young child, or double the quantity of Malaga wine; if we give the stimulant in small doses, at frequent intervals, we avoid irritating the stomach. Under this treatment, the temperature falls, respiration becomes less frequent, the pulse is slowed, delirium is calmed, and the skin is covered with an abundant perspiration.

As for the other acute affections of the respiratory passages, such as laryngitis, bronchitis of the large or medium sized bronchi, or generalized bronchitis, alcohol is rather contraindicated than demanded, especially in children. Here emetics and revulsives are the means on which we are accustomed to rely most; I should make an exception, however, as to croup, for here it is a diphtheritic process which we are obliged to combat, and hence cannot get along satisfactorily without a diffusible stimulant.

In chronic diseases of the respiratory tract, such as chronic bronchitis, bronchial adenopathy, chronic phthisis, etc., alcohol often renders marked service, but must be administered with great precaution, since the treatment must necessarily be prolonged.

Given as quinine wine, or any form not well diluted, it produces dyspepsia, and anorexia complicated with pyrosis. It occasionally acts usefully in these affections, just as does sulphur, by stimulating temporarily the pulmonary and bronchial mucous membrane; but it should constitute an accessory. The sulphurous and arsenical mineral waters, arsenic, phosphate of lime, revulsives to the chest, cod-liver oil, etc., should be the basis of the treatment. In emphysema and in asthma, alcohol likewise may render good service, its rôle being that of an adjuvant merely.

Diseases of the digestive apparatus may also be benefited under certain circumstances. There is, however, only diphtheritic angina in which alcohol is indicated, and here it should be employed both internally and externally—In this affection I condemn cauterizations, and seek only to modify the diphtheritic surfaces with lemon juice and salicylic acid, aromatic wine or alcohol (two tablespoonsful to a glass of water) employed in the form of gargle or as an irrigation to the pharynx. To this I add a general treatment from which is excluded all agents capable of depressing the forces, such as mercury, alkalies, opium and bromides. All wines, including Champagne, may be administered; also brandy and water, coffee, tea, etc. Perhaps, also, it is hardly necessary to remark that I invariably forbid in such cases the use of all leeches, blisters, etc.

In certain forms of dyspepsia, and in that atonic dyspepsia which is especially met with in the children of cities, alcohol gives excellent results. We here prescribe the Malaga wine of quinine to be taken just before meals, taking care to dilute with water, since without dilution we run the risk of aggravating the evil; moreover, the administration of the alcoholic preparations demands on the part of the physician extreme attention to, and a thorough examination of, the patient, for the cases where

these preparations are indicated greatly resemble others where they are formally contra-indicated. If we observe in an infant patient an obscurely yellowish coloration of the skin and sclerotics; if the liver is a little more voluminous than in the normal state; and if there is constipation; it is best to abstain from alcohol, else we are apt to see the jaundiced condition deepen, with an aggravation of the dyspepsia. In such cases, the digestive disorders are plainly consecutive to a hepatic congestion that is augmented by spirits. The alkaline mineral waters here agree best, such as Vals and Vichy; and they certainly ameliorate the dyspeptic state.

In most cases of children's diarrhœa, alcohol may be dispensed with; but if there is great prostration of the vital forces, and especially if we have to do with a choleraic flux, some good vinous or spirituous stimulant is the sheet anchor. When the child rallies and the coldness of the cheek bones (always an indication for alcohol) disappears, we may abandon the wine or brandy, and return to the ordinary treatment for enteritis.

Our predecessors would have regarded with astonishment the proposition to give alcohol in fevers, nevertheless, we to-day know that it is often indicated, and that the indication is even more peremptory the higher the temperature of the patient. A good many physicians give wine and water, the "cordial potion," in general diseases, in typhoid fever, in adynamic pneumonia, and in all states of collapse, but it must be confessed that this is rather a haphazard method. Nevertheless the only harm that can result from alcohol in fevers, is to diminish the urinary secretion and hinder in a certain measure the separation of the excretions of the organism; here some are in the habit, when giving alcohol, of acting on other emunctories by which waste products are removed—for instance, I give frequent laxatives or lavements to keep the bowels soluble.

To sum up: Alcohol in fevers calms the ataxia, diminishes the adynamia, raises the forces, notably depresses the temperature, and retards denutrition by restraining the organic combustions and the exhalation of carbonic acid. We see then its importance in febrile affections; but we must not forget that it attacks only one of the aspects of the malady, and that there are other indications to be attended to which it fails to meet. In convalescence from grave fevers, alcohol does good by arousing the various functions.

Alcohol is often also of use in the eruptive fevers, in erysipelas, and in both the acute and chronic intermittents; in a general manner, it may be said to be indicated whenever there is adynamia and a tendency to collapse or heart failure. For the same end, it has an important place in the therapeuties of gangrenous states, in septicæmia and other forms of blood-poisoning, and in cachexia from whatever cause.

I have not spoken of acute rheumatism among the pyrexial diseases; and although alcohol has been recommended by some in this disease, I do not advise it, or regard it as in any way suitable.

Affections of the heart may, in some circumstances, demand the aid of alcohol. Thus, it may be indicated in cyanosis, due to malformation of the heart, to raise the force of the cardiac muscle. It is also indicated in asystolia, and generally whenever we note syncopal tendencies, slowness of the pulse, and atony of the capillary circulation of the skin and lungs. On the other hand, it is contra-indicated in acute endocarditis and pericarditis.

In the *general chronic diseases*, such as anæmia, chlorosis, scrofula, rachitis, scurvy, we can usually and usefully employ preparations of alcohol. But there are two sorts of anæmia, viz.: Traumatic, which is associated with abundant hæmorrhages, and; slow, chronic anæmia which depends on a thousand circumstances pertaining to the domains of hygiene or pathology. There is also another form of anæmia, of a profound, slow type, connected with poverty, wretched alimentation, and sojourn in the slums of large cities, and in asylums. The depravement of the blood is here very grave, and alcohol is indicated, though it constitutes only a part of the treatment, which should be instituted in the following manner:

Every morning, after breakfast, a bitter aperient syrup (syrup of gentian, Fr. Codex); before the two other meals, and an alcoholic preparation, well diluted. In the winter, cod-liver oil mixed in the same glass with a little quinine wine, or porter; begin with minute doses of the oil, and gradually increase. Here also, one must take into account the susceptibility of the stomach and the state of the liver—children, as a general thing, support and digest cod-liver oil well. Suspend the treatment once or twice a week, and on those days give a mild purgative to regulate the stomach and improve the appetite. In rickets and scrofula, this treatment cannot fail to do good, but it is advisable also to add phosphate of lime in powder, in solution, or syrup, as well as sulphur baths, sea baths, and alcoholic frictions.

In a third class, quite exceptional, is placed hæmorrhages due to a congenital disposition, which are produced by the most trivial causes. This tenacious and dangerous hæmorrhagic state must be combated by the internal use of iron perchloride in conjunction with alcoholic preparations, though here the latter occupy but a limited place in the treatment. It is the same with chlorosis, which is benefited by wine of quinine and wine of gentian, if prescribed along with hydrotherapy, massage, exercise, gymnastics, and sea baths when they are not especially contra-indicated.

Finally, alcohol is indicated in scurvy, in purpura, in spontaneous hæmorrhages, states which indicate a profound dilapidation of the organism. It is contra-indicated in all nervous diseases, especially where the source is cerebral; in encephalic scleroses, in meningitis, in precocious hysteria, epilepsy, eclampsia, and chorea. It should be formally interdicted in all acute diseases of the skin, and in a certain number of chronic affections, such as eczema, ptyriasis, psoriasis, prurigo, urticaria, ecthyma, and furuncles; also in chronic and nodular rheumatism and gouty diathesis, by reason of its action on the kidneys, whose function it diminishes.

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Editorial.

THE COUNTRY DOCTOR.

Dr. E. P. Hurd, of Newburyport, Mass., so well known as a contributor to the AGE, has at some time, apparently, been brought in more intimate contact or relations with the typical rural practitioner of the New England type. He discusses his peculiarities in a recent editorial in the Boston Medical and Surgical Journal as follows:

Wonder has often been expressed that the country doctor—and we make this remark knowing that there are illustrious exceptions—has not done more to advance medicine. He writes but little, makes few original investigations, and now that preliminary study with a preceptor is growing less and less acceptable to medical schools, influences but slightly professional opinion. We allude particularly (and we wish in what we say to be understood) to the practitioner whose home is far from the metropolis, the medical school and hospital, who seldom finds time to get away for a day's vacation to attend clinics, witness a major operation, or even be present at an important medical meeting. He possibly takes one medical journal, or he may long since have given this up, "not having time to read it." He has frequent cases which he has carefully followed to their termination, and where he has been generously granted an autopsy; these cases, which would be instructive if reported, he has never written out; in fact, writing is irksome to him, and he has no incentive to contribute new data to science. It has not been his custom to take daily notes of his cases. He makes few changes in his practice, except as occasionally a consultation with some younger physician, fresh from clinics and hospital work, reminds him that methods and manners are changing. Now and then some old professor from the great Hospital Medical School comes into his section of the country for recreation, for hunting or fishing, and "posts him up" as to modern methods.

The country physician is both conservative and cautious. He is very shy of the new remedies. He would not dare to open the knee-joint antiseptically and drain it for a traumatic arthritis, much less perform a resection, or laparotomy; if these operations are required, his metropolitan brother must be summoned. This timidity is not to be wondered at, it is so seldom that he sees cases requiring peculiar surgicial skill. An ordinary amputation he does not fear; he gives his anæsthetic and goes to work with a farm-hand for his assistant; makes his flaps *secundum artem*, dexterously takes up and ligatures the arteries, puts on the dressing, and thanks to healthy surroundings and good air, the operation is a success though done without antiseptics. As for the treatment of fractures, with his extemporized splints of clapboard, sole leather or glue, he claims as good results as his city brother. And it is an open question whether his city brethren could do as well if placed in the same circumstances.

In regard to the pharmaceutical part of his work, he labors under some disadvantages. There may be no apothecary in the village where he lives, and he is obliged to furnish medicines. Consequently he must carry ample supplies with him of *tinct. ferri chloridi*, *pot. nitras.*, *pulv. Doveri*, *quiniæ sulphas*, *tinctura digitalis*, and various cathartics, diaphoretics and tonics. He has not been *pestered* (we use a term which is current among certain urban medical practitioners) with visits by the pharmaceutical travelling agents with their handsome gelatin-coated pills, their tablet triturates, and their parvules, consequently the remedies he carries are in rather crude shape.

The country doctor is still somewhat old-fashioned in his therapeutics. He does not hesitate to give tartarized antimony in colds and fevers (though in very small doses), but he has long since given up bleeding. Nitrate of potash still serves a variety of uses. He orders Dover's powder and warm wrappings to break up a cold, and has much faith in the liver as the source of all obscure ailments, and in the corrective efficacy of blue pill and black draught. He still treats dyspeptic stomachs with quassia chip bitters, and if this does no good he gives judicious suggestions as to dieting. Dietetics does not constitute a favorite branch of therapeutics with him, yet experience has taught him many of the simplest and most peremptory rules.

A large part of the country physician's duties is to prescribe for those that are simply run down, debilitated, suffering from functional ailments, from cold, overwork, and dietary indiscretions; and in treating such patients, he generally brings into exercise the principles of good judgment and common sense. Even if now and then a puzzling case, as of multiple peripheral neuritis, comes before him for diagnosis and treatment, though the diagnosis may be at fault, the treatment may not be altogether harmful.

In the management of children's diseases, the country physician may be somewhat badly off without the multitudinous preparations called infants' foods, which his city *confrère* possesses, yet with pure cow's milk and flour gruel he gets along fairly well, and sees some cases of intense athrepsia recover under good hygiene on very simple nourishment, and finds indeed a pleasure in seeing his patients' city grandchildren grow healthy and strong under his care during the summer vacation.

In his obstetric practice, the average country physician, though he use no antiseptics, has the benefit of pure air, and that is almost everything. He may be a little slow about putting on forceps, but he claims that

time with him is not so precious as to make "meddlesome midwifery" justifiable, and that in hundreds of cases he has seldom found the necessity for interfering with Nature's processes; yet on a severe emergency, he is generally equipped and equal.

The country physician deserves high consideration from his fellows for his lot, if he be a successful practitioner, is a laborious and largely unselfish one; we say unselfish, for no one is a greater servant of his constituency than he, or does so much drudgery for so little pay. When his work is done for the day, his nights are by no means undisturbed by calls; he is really always tired, and seldom in mood for study or the microscope. His city *confrère*, having his patients near home, can do in a few hours an amount of work that would take the country practitioner all day long, for his patients are often a long distance from home. A drive of ten miles and back over a rough road in the forenoon, and a similar ride in another direction in the afternoon, with other calls sandwiched in, and an obstetric case in the night, make considerable draughts on the energy of even the most vigorous man; and when we consider that the country doctor is generally a farmer as well, and think of the social demands on his time (he is often Superintendent of the Sunday School, leader of the Class Meeting, or the Prayer Meeting, President of the Debating Society, or Literary Club, perhaps Chairman of the School Board), we wonder at his powers of endurance and the extent and variety of his labors, and we feel that he rather deserves praise that he is so useful a man rather than blame that he has done so little for medical science.

Much of this is applicable to the Great Lake Region, though we believe the country practitioner here, more generally reads the medical journals, and is more ambitious, for he looks forward to a day when he will forego the highways and by-ways, and instead plod the pavements of the city. As a rule he is apt to be progressive also, in so far as his limited finances will permit; and the newest appliances in both medicine and surgery are often to be found on his office shelves and within is his elaborate "buggy case"—for saddle bags are survivals only in the far East, and remote Southwest. If an agriculturist also, he farms merely as a recreation, for his income is derived from that which receives his best energies—his profession. Educationally, mentally and physically, he is apt to be more than the peer of the city practitioner of like calibre. He is more astute and more ready to meet emergencies, for he encounters a great variety of maladies, each with a greater variety of obscure symptoms. To be successful he must know how to meet each and every exigency at a moments warning, and without the aid of a surgical instrument dealer. Neither does he hesitate if a laparotomy must be performed, a patella be wired, or a strangulated hernia replaced; and candor compels the acknowledgement that his successes are often quite as good if not better than those of his city and hospital *confrère*.

The truth is also, the country practitioner meets with greater success proportionately, both in obstetrics and general practice than his city brother, first because he is accustomed to expediences that are often better than definite provisions; second, those who form his clientage are more rugged and hardy; third, he has the confidence of his patients to a greater and better degree. This last alone, is often more than half the battle. But in these days of telephones, railways, etc., in the Western portion of the United States particularly, the country practitioner is no longer rustic in the sense he is in New England. Again, the rural practitioner who as a rule, makes his own splints, obtains better union in fractures than those who avail themselves of the surgical-instrument makers' art. To be sure he is conservative in most things, but such is not necessarily carried to extreme, but is of a type that might with advantage be copied. He holds fast to that which he knows to be good, relinquishing only when it is definitely proven there is something better.

MORE RESEARCHES ON TESTICULAR LIQUID.

At a recent meeting of the Biological Society, Dr. Brown-Séquard reported regarding the continuation of his researches, and gave a *resumé* of new experiments on himself wherein the results were very constant and persistent. These effects were principally an augmentation of the muscular contractility of the bladder, of the rectum, of the lower limbs, and a marked increase of cerebral power. He had thought of a new procedure four times less active than the sub-cutaneous injection, but possessing none of the possible accidents of the latter, and enabling one to introduce a larger quantity of the testicular juice.

This procedure consists in the rectal injection of the liquid, diluted with a certain quantity of water (40 to 50 grammes of water to the juice of two testicles of the Guinea-pig).

A large number of patients also have been treated by these injections in different parts of the world; and he also cites some remarkable results obtained in the treatment of chronic intermittents with malarial cachexia. One patient who had been confined to his bed for three years, was cured by a single injection; and three others who had the same fever every afternoon for several years was also permanently relieved.

Again, in lepra, a physician had obtained marked improvement (disappearance of the contracture, of the muscular weakness, of the œdema, and even of the ulcers) in four cases. Also certain ataxic patients had been greatly benefited; and divers forms of pain, neuralgia, even cases of paraplegia and hemiplegia, are reported either as cured, or as considerably

ameliorated. Insomnia, nervous cardiac intermittents, hypermania, incontinence of urine, and seminal emissions likewise were benefited, if not permanently relieved, in a number of cases.

Lastly, the venerable pathologist cited a case of grave post-hæmorrhagic anæmia which was markedly relieved by a single sub-cutaneous injection of human sperm. The only interpretation which suggested itself to him was, that this fluid had a special action on the spinal cord and brain.

At the same meeting, likewise, M. Darsouval reported one of his patients had been helped by the injections, and that manifestly this was not due to any mental effect, as the patient was very much prejudiced against the method:

"The first effect, to the great astonishment of the latter, was the disappearance of a long-standing incontinence of urine. Next the complete cessation of chills, from which he had suffered every day. More than this, he had acquired the ability to perform considerable labor. Finally, it was evidently impossible in such a case as was this, to explain the favorable results by hypnotic suggestion, or by any sort of mind cure."

Dr. M. Crevelli, of Paris, sums up his conclusions after an experience with twenty cases, all aged men (Australian Medical Journal, March, 1890): "The method of Brown-Séquard is only the first step in the practical application of a physiological theory generally true, but at this moment the method is too inaccurate and unscientific in its progress. It is indispensible that it should be carefully perfected, but I believe and trust that it will be the foundation of a most important method, and that to Dr. Brown-Séquard is due the honor and credit of having attracted public attention, and thrown light on a most interesting and delicate question of physiology."

APPENDICITIS AND TYPHLITIS.

The titles typhlitis and peri-typhlitis seem destined to be superseded by *appendicitis*, as the lesions, according to recent authorities, pertain primarily to the appendix vermiformis.

Maurin has collected 136 observations published in France under the titles of typhlitis and peri-typhlitis, of which the appendix alone was the seat of lesion in 94; the cœcum alone, in 36; the appendix and the cœcum, in 6. But of cases where the cœcum alone was considered as the cause, in 20 the disease ended in recovery—that is to say, the correctness of the diagnosis was not proved—and in two the cœcum was perforated by a foreign body. In 14 only then, was it clearly demonstrated that the cœcum was the seat of an ulcerous inflammation. Again, out of 27 observations by Roux, in one only was the cœcum perforated; in all others the symptoms were due to inflammation or perforation of the appendix.*

In summing up the statistics, it appears that in scarcely eight per cent. of the cases described as typhlitis and peri-typhilitis was the cœcum responsible for the symptoms attributed to it; while in the acute and rapid forms—apart from cancerous, tuberculous, dysenteric, and typhoid ulcerations, as may primarily affect the cœcum—the lesion begins in the appendix and spreads thence to other parts, becoming ultimately a perforating appendicitis.

Talamon, rejects the older view that the perforation is ordinarily due to simple traumatism by a foreign body—stercoral balls, fruit stones, fish-bones, etc. It is a fact, he says, that in most instances, the appendicitis is traced, not to a sharp body, accidentally swallowed, but to hard stercoral balls or scybala which find lodgment in the appendix, and perforation occurs at a greater or less distance below the obstruction.

The scybalum becomes engaged in the upper part of the appendix by some unlucky contraction of the cœcum, obliterates the orifice by which the appendix communicates with the bowel, and there is compression of the walls of the appendix, and obstruction of the circulation therein. From the obliteration of the orifice an accumulation of the products of the mucous secretion results, with distension, and compression of the vessels induces diminution of vitality. The microbes which exist permanently on the surface of the mucosa, multiply in the stagnant liquid of the obliterated appendix, as in a closed vessel, and, ordinarily impotent for evil, are now enabled to triumph without difficulty over healthy elements by reason of the fact the latter are deprived of their blood-pabulum; they pullulate more and more, destroying and ulcerating, little by little, the lining of the appendix, and finally succeed in perforating its walls at one or more points, making an irruption into the peritoneum.

The part played by distension of the appendix-sac would appear to be considerable. If the tension were sufficient to rupture the walls, for a stronger reason it would be sufficient to force back the stercoral plug into the cœcum; but the rupture is much more likely to be the result of a vital action—of destruction—of the anatomical elements by the bacterial proliferation.

In acute ulcerating appendicitis, the perforation takes place in a very short time, usually in two, three, or four days from the commencement of the obstruction, and determines an acute general, or a localized, peritonitis. Extra-peritoneal abscess is the exception, for recent anatomical researches have shown that the ap-

* Charles Talamon, Médecine Moderne, 1890, page 505.

pendix is almost always completely invested by the peritoneum.

In subacute appendicitis, the perforation takes place much more slowly, and the peritonitis is ordinarily localized; adhesions have had time to become established with the neighboring parts. Again, perforation may not take place, the foreign body being from some cause or other displaced, falling back into the cœcum. It may have remained just long enough in the appendix, however, to have excited considerable inflammation propagated by contiguity, or it may have been forced back before it has had time to do more than produce an attack of violent pain, colic, and vomiting—*appendicicular colic.*

Appendicicular colic has been compared to bilious colic; but in the latter, as Talamon points out, if the calculus remains imbedded in the choledochus, the only consequence is chronic icterus. The perforation of the duct at the level of the obstacle, or behind it, is a rare event—despite the pressure exerted by the bile, which continues to be secreted,—because the bile is an aseptic liquid, and there are no microbes on the surface of the biliary mucosa. In the appendix, on the contrary, perforation is the rule because the walls are deprived of their vitality by the compression of the vessels, and offer no resistance to the penetration of the bacteria which pullulate in the dilated cavity.

THE ICE FAMINE.

It is quite possible that the present ice famine may prove a blessing by bringing before the public the immense superiority of artificial ice in its greater purity, its greater keeping qualities, and its economy over the ice gathered from lakes and ponds, which must contain more or less filth and bacteria which even cold fails to destroy.

It has been demonstrated that ice as clear as crystal and absolutely pure, can be made anywhere at two dollars a ton at the most, and retailed at four dollars a ton, which certainly would allow a sufficiently large margin for profit, while a large plant such as would be needed in large towns and cities, could manufacture it at a much less price. Even when lake and river ice can be obtained for simply the cutting, carting, and storing away, it has been found more profitable to take it in such quantities as are needed, day by day, from the ice dealer. It has long since ceased to be a luxury, and is now regarded as one of the necessities, so that the enormous increase in its price is bringing before the public an easy way of getting out of the hands of monopolists and being better served at the same time. The small capitalist will find no better investment for his money than an ice plant in any of the large towns and cities, which would do away with the impure snow ice now furnished by the large ice companies.

Book Notices.

Practical Sanitary and Economic Cooking, Adapted to Persons of Moderate and Small Means. By Mrs. Mary Hinman Abel. Cloth, 8 vo.; pp. 190. Published by the American Public Health Association (Irving A. Watson, Secretary, Concord, N. H.) 1890.

This, the Lomb Prize Essay for 1889 of the American Public Health Association, is a most practical and worthy volume in every respect. Such, however, should be evident without any statement of ours, since the amount of the prize, $500, which was won over sixty-nine competitors, is enough to establish the fact. It is an admirable treatise on the subject, in that it is simple and lucid in statement, methodical in arrangement, and well adapted to the practical wants of the classes to which it is addressed. Whoever peruses its pages can have confidence in the soundness of its teachings, and cannot fail to be instructed in the art of cooking by its plain precepts, founded as they are upon the correct application of the scientific principles of chemistry and physiology in the proper preparation of food for man.

Copies of the work may be had at a merely nominal cost by addressing the Secretary of the A. P. H. A.

The Therapeutical Applications of the Per-Oxide of Hydrogen. By Charles Marchand, Chemist. Paper 8vo. pp. 56. For gratuitous distribution. Published by the Author at 10 West 4th Street, New York.

There are many new and valuable ideas embodied that will be of interest and help alike to the physician. The status of per-oxide of hydrogen, as a therapeutic agent in many forms of diseases is now well established, hence any information offered to the profession regarding its precise action is welcome.

Reference Book for Trained Nurses. By H. C. C. Cloth half 12mo. pp. 163. Price 50 cents. Published by the Lakeside Publishing Co. Buffalo, N. Y.

Portions of this volume have previously appeared in the columns of the Trained Nurse. Many of the rules laid down are the result of practical experience, and nearly all are helpful. A valuable feature is blank pages for memoranda, notes, etc.

Recollections of General Grant. By Geo. W. Childs. Cloth 12mo. Price $1.00. Published by J. B. Lippincott Co., Philadelphia.

Being the recollections of a most intimate, if not *the* most intimate friend of General Grant, the volume possesses more than ordinary interest.

The Value of Electricity as a Substitute for Laparotomy in Diseases of the Uterine Appendages. By Augustin H. Goelet, M. D. Paper, 12 mo.; pp. 24. Reprint from New York Medical Journal.

Urinary, Urethal, Catheter or Urine Fever. By C. G. Buchanan Klophel, M. D. Paper. 12 mo.; pp. 28. Reprint from Therapeutic Gazette.

Notes and News.

Antisepsin.—Antisepsin or para monobromacetanilid has been investigated by Professor Cattani. The first effect noted was that in doses of grammes 0.05 four times daily, it reduced the temperature from one to two degrees Centigrade. Whether employed in the pyrexia of phthisis, pneumonia or typhoid fever, the effects were practically the same. If the dose was large, however, the tendency to produce cyanosis was found to be even greater than with acetanilid. The cyanosis observed was only evanescent however, and was the only unfavorable accompaniment of its administration. The cyanosis is produced in the same way as by acetanilid, namely by the convertion of hæmoglobin into methæmoglobin. He recommends the inhalation of oxygen in the event of cyanosis occurring. In idiopathic neuralgias the action was tolerably constant, and similar to that obtained by acetanilid, analgesin, and phenacetin.

The drug was principally remarkable, however, for the effect of its topical application to non-bleeding wounds, and it was this effect that suggested the name bestowed on it, that of Antisepsin. When applied to non-bleeding wounds and ulcers it was observed that rapid improvement took place in the local condition, and especially in the fresher cases; the granulations flattened down, became smaller and disappeared, whilst the Antisepsin laid on formed an impermeable layer, under which the violet surface appeared a rose color, in combination with the cicatricial spots which gradually passed on to complete cicatrization. The Antisepsin relieved both the pain and itching, whilst the wound passed on to cicatrization with perfect asepticity. He employed it with great benefit in lacerations of the perineum. In hæmorrhoids, also, the application was very useful, as suppuration was avoided notwithstanding the passing over of fæces. Here it was used in the form of a suppository with cacao butter, grammes 0.20 to 0.40 to 3.60 to 4.00, that is, suppositories containing 10 to 12 per cent. of Antisepsin, and given twice a day, after previous washing out with plain water. Antisepsin is inodorous, which is an advantage in some respects. As it is insoluble in the usual vehicles, it must be given internally in capsule or pill, and at least half an hour before, or two hours after, food. For outward application the form of powder is the most suitable.—*Medical Press*, March 26th, 1890.

Calf Lymph for Public Vaccination.—Dr. Cameron and others have long urged the public use of calf lymph in public vaccination for those who prefer it. It is certainly wise in sanitary authorities to use every available means for removing the objections or the prejudice that hinder parents conferring on their children the immense advantages of vaccination. We learn with much satisfaction that in some districts the "authority" has sanctioned a system by which a regular supply of calf lymph is sent to the public vaccinator on the day for public vaccination. If we mistake not, this system has been for some time in operation at Kensington. It has lately been adopted by the guardians of Islington, on the suggestion of Mr. Rowntree, one of the public vaccinators. It is supplied moist and in tubes, at the expense of the authority. It is said to "take" with almost unerring certainty. We commend the example of Kensington and Islington to other vaccination authorities. With ordinary care in the selection of lymph, of children, and in the use of scrupulously clean and disinfected instruments, few operations are safer or simpler than vaccination with human lymph; but by all means let authorities vie with each other in meeting the views of all reasonable people.—London *Lancet*.

Open Air for Babies.—Dr. Felix Oswald says, in answer to the question how old should infants be when first exposed to the open air and sunlight: I have often been asked at what age infants can first be safely exposed to the influence of the open air. My answer is, on the first warm, dry day. There is no reason why a new-born child should not sleep as soundly under the canopy of a garden tree on a pillow of sun-warmed hay as in the atmosphere of an ill-ventilated nursery. Thousands of sickly nurslings, pining away in the slums of our manufacturing towns, might be saved by an occasional sun-bath. Aside from its warmth and chemical influence on vegetable oyxgen, sunlight exercises upon certain organisms a vitalizing influence which science has not yet quite explained, but whose effect is illustrated by the contrast between the weeds of a shady grove and those of the sunlit fields, between the rank grass of a deep valley and the aromatic herbage of a mountain meadow, as well as by the peculiar wholesome appearance of a "sun burned" person and a sun-ripened fruit. Sunlight is too cheap to become a fashionable remedy, but its hygienic influence can hardly be overrated.—*Health and Home*.

Berlin Medical Congress.—The Surgical Section has agreed to assemble for the first meeting on Tuesday, August 5th. The meeting will be held in the chief building close to the station Lehrter Bahnhof. Professor Ollier (Lyons) will read a paper on Surgical Osteogensis, and Professor König (Göttingen); on Hydrops Tuberculosis of the Peritoneal Cavity. At the second sitting, Mr. Johnathan Hutchinson (London) will read an article on the Surgical

Treatment of Intussusception, and Professor Billroth (Vienna) on the Resection of the Stomach and Intestines, illustrated by results of his own practice. At the third meeting, Signor Bottini (Pavia) will deliver a lecture on the Treatment of Enlarged Prostate, and Mr. Iverson (Copenhagen) on Modern Operations for Cancerous Diseases of the Rectum. On Friday, August 8th, Mr. Senn (Milwaukee) will submit a paper on Gunshot Wounds, and Mr. Lewschin (Kasan) one on Urinary Calculus. At the last meeting of the Section, Señor Rubio (Madrid) will read a paper on A New Method of Excision of the Head of the Femur.—*London Lancet.*

An Incurable Drunkard.—

The old toper, Martin, in fear,
Said unto his doctor, mid sighs,
"Pray whisper some remedy into my ear
To cure up my very sore eyes."

The doctor said, "Martin, old wight,
Thy disease one can quickly divine.
Thou surely wilt lose thy good sight,
If thou quitest not drinking red wine."

Then, Martin, his eyelids closed tight,
On the doctor's advice long did think.
"Adieu!" said he, "forever to light,
For I am determined to drink!"

"After all it's not bad to be blind,
Quiting drink means to lie in a grave;
There's no use for windows, I find,
Providing my house I can save."

He drank more than ever, they say;
He recovered his sight, it appears.
He was fat, and uncommonly gay,
Outliving his doctor ten years.

—*Imitation of the "Cure Borgne" of Grecourt; Cincinnati Lancet and Clinic*, July 12th, 1890.

A Costly Nap.—A well-known therapeutist who left London to conduct an examination at one of our ancient seats of learning, recently fell asleep in the train, and only awoke to find himself at a town far distant from the would-be scene of his labors. He was fortunately enabled to get a special train back—a luxury with which he would probably have gladly dispensed—and put in an appearance an hour or two late, to the great relief of the gentlemen who were anxiously awaiting his arrival.—*Medical Press and Circular.*

Love's Malady.—Eugenie D., the actress, had been sick with vaginitis for ten days, and bore her malady with true amiability. Dr. Rivarol remarked to her: "Your health proves that you are very amiable, and your disease that you are very much loved."—*Cincinnati Lancet and Clinic*, July 12th, 1890.

Therapeutic Brevities.

Powdered Jequirity in Certain Affections of the Eye.—Dr. W. Cheatham (Journal of the American Medical Medical Association, June 28th, 1890) says:

When the use of Jequirity was first brought to the attention of the medical profession, it was, like most good remedies, much abused. I think, though, that the pendulum has now swung too far the other way, since several articles on the subject of its dangers to the cornea, etc., have appeared. Consequently I think it has not yet taken its proper place as a remedy for pannus, with or without trachoma or papillary hypertrophy.

I have used Jequirity in many of those conditions advised against by most men who have written on the subject. I do not use the infusion for several reasons (of which I will speak directly); but I use instead an impalpable powder, and have never received anything but the best results from its use.

Why should the powdered Jequirity be better than the infusion? I believe that the powder can be kept indefinitely if placed in a dry place, whereas infusions, as we know, change rapidly. The action of the infusion cannot be confined; it will pass even into the tear duct and down into the nose, while the powder produces the false membrane only where you apply it. Indeed, by applying the powder carefully, its action is confined to a spot as small as a pin-head, and is much more thorough than that of the infusion.

If Jequirity does produce corneal ulceration (which I doubt, for how few cases of severe trachoma but that have ulcerative keratitis—cases in which Jequirity has *not* been used), the powder is less liable to do this than the infusion. These statements are the result of much experience, and what I ask is that those who have not used the powder give it a trial before commenting upon them. Again, I have used the powdered Jequirity in one or two cases in which there was extensive muco purulent secretion, with success. The fact is, I know of no condition in which there is pannus, unless it be a large slough of cornea, with or without prolapse of iris, in which I would hesitate to use the pulverized Jequirity, providing the usual remedies had failed.

The reaction which follows the use of the powdered Jequirity sets in from two to four hours after its application; the pain is very great, but for this I use nothing if it can possibly be avoided; if not, hot carbolized water or hot water with boric acid, soon allay it.

I have had people who were led into the office blind, come by themselves in four or five days after the use of the Jequirity. I have so little fear of it, that in a certain neighborhood in my State where there is a great deal of trachoma with pannus, a patient from there who had been relieved by its use took some of the powder home with him, and used it in the eyes of many of his poor neighbors, with none but the happiest results. Of course, pulverized Jequirity is not a "cure-all," but there are many cases of so-called hopeless blindness from pannus, in which all other remedies have failed, which I believe can be given useful vision by the use of this drug. Indeed, I believe many of

these cases have not been relieved because the physician has read of the dangers of the infusion of Jequirity, and has not heard of the powder, which, as before stated, I believe is free from danger.

Calomel and Bi-sulphide of Carbon in Dysentery.—Dr. A. N. Jakovleff, of Kalüga, warmly recommends the following antiseptic treatment of dysentery, which proved very successful in eight cases from his recent practice. As soon as a case has come under observation, Calomel in one- or two-grain doses should be given internally every hour until the appearance of the characteristic (of the drug) stools. In the course of the same day, two enemata should be also administered, each made of one-and-a-half ounces of Dujardin-Beaumetz's Bi-sulphide of Carbon water, and an equal quantity of ordinary water. From the next day, the Bi-sulphide water should be given internally, a tablespoonful in a tumblerful of water, or milk, six times daily, the dose being gradually increased to ten tablespoonsful a day. The *Aqua Carbonei Sulphurati* should be prepared after the formula:

℞ Carbonei sulphurati purissimi, grammes 25.00.
Aquæ distillatæ, grammes 500.00.
Olei menthæ pipperitæ, c. c. 3.00.

The ingredients are placed in a vessel holding about 700 cubic centimetres. The mixture is thoroughly shaken, and then left to stand until sedimentation. Only the upper strata of the fluid should be used for therapeutic purposes. Each litre of the preparation contains about two grammes of dissolved Bi-sulphide of Carbon. In all the eight cases of the author's (five of which had been previously treated on ordinary plans with unsatisfactory results) a steady improvement rapidly set in, speedily ending in complete recovery.—*London Medical Recorder*, June 20th, 1890.

Successful Treatment of Intussusception by Injection of Air.—On January 19th I was called to a child, aged 7 months. The mother stated that the child was playing on the hearthrug and was stretching, when he suddenly fell back in a fit, as she thought, screaming with pain. I found the patient cold and collapsed, with anxious expression of face, constantly vomiting, and evidently in great pain. Six hours later the collapse continued in a lesser degree, the pulse was small and rapid, no food retained, and constant vomiting, while blood and mucous were being discharged from the anus without fæcal matter.

On careful examination a small sausage-like tumor was found in the right hypochondriac region, evidently connected with the intestines, and most distinctly an intussuscepted gut. Having tried position and manipulation without effect, my partner (Mr. Lipscomb), without chloroform, fully and carefully inflated the bowels with air by means of an ordinary small pair of drawing-room bellows, apparently without pain, and in a few minutes I felt the intussuscepted bowel suddenly disengage itself under my fingers. The countenance of the child immediately changed, the collapse, vomiting, and discharge of blood and mucous gradually ceased, and a loose motion was voided in an hour. The child rapidly recovered, practically without further treatment.—Arthur John Drake, L. R. C. P., M. R. C. S., in *British Med. Jour.*

Treatment of Bubo.—According to Dr. Cordier, of Lyon, the procedure which has given him the best results in the treatment of bubo is as follows: As soon as œdema of the skin shows the presence of pus, he makes a puncture with a straight bistoury. There is discharged along with the blood some streaks of pus. No pressure is made, but the cavity is injected with about a cubic centimetre of a one-to-fifty solution of nitrate of silver. Without paying any attention to whether the solution flows out again or not, a dressing is made with iodoform and a spica bandage. When this slight operation is made early enough, no purulent discharge follows, and the bubo disappears rapidly leaving behind a sort of indurated nodule. When the puncture is done in a bubo much more advanced and in full suppuration, the purulent collection must be carefully washed out. A first injection of the solution mentioned is made which is destined to cleanse the parts, and the second is left in; a decided inflammatory reaction is established and quite an abundant suppuration occurs and lasts for three or four days and then becomes serous. Healing takes place rapidly, and the opening closes without leaving a cicatrix. Dr. Cordier has had the same results, whether the bubo was chancrous or simply inflammatory.—L. Brocq, in *Journal of Cutaneous and Genito-Urinary Diseases.*

Nitroglycerin in Gas Asphyxia.—Dr. C. W. Goss, of Lancaster, Ohio, writes to the New York Medical Journal an interesting account of a case of gas asphyxiation treated by means of Nitroglycerin, hypodermatically applied. There are now on record three or four other cases of poisoning by illuminatory or coal gas in which Nitroglycerin has been used, as one of the parts of the treatment, and recovery has been the result or sequel in every case. In these cases, the hypodermatic use of the drug has been most promptly followed by a manifest improvement in the patient; the dose has not been repeated in every case at so short intervals, (ten minutes,) as in this case of Dr. Goss. It may hereafter be determined that a good recovery may be obtained at intervals of half an hour to an hour, according to the pulse reaction. It may also be determined that, as is suggested by Dr. Goss, the only treatment that is needed is that by Nitroglycerin, and that the battery, or the injection of stimulants, or the practice of artificial respiration, may not be called for. It has been assumed that the carbon monoxide, or whatever other ingredient it may be in the olefiant gas that acts as the poison, did its harm as a suffocant, rather than as a heart-depressant, whereas the reverse is likely to be discovered to be the fact, if the observations recently made as to the effects of Nitroglycerin shall be confirmed.—*Journal of the American Medical Association*, July 12th, 1890.

Phenacetin in Typhoid Fever.—Dr. Sommer has used Phenacetin with great success in the treatment of typhoid fever, thus confirming

the favorable views of its action which have been expressed by Masius and others. The dose employed for adults was four grains, which was repeated from two to four times during the twenty-four hours. Children were given only half this dose. No less than sixty cases were treated in this way, with but one fatal case, about which it is noted that the patient was not subjected to Phenacetin treatment until three weeks from the commencement of the attack. In no case was there any serious complications.—London *Lancet*, July 5th, 1890.

Treatment of Hay Fever.—Dr. Rixa, of New York, has been fortunate enough to have a patient willing to be experimented upon for this complaint. The list of remedies used is a formidable one, and includes analgesin internally and locally, boric-acid spray, cocaine spray, morphine, atropine, cauterization with pure carbolic acid, eucalyptus, solution of menthol in olive oil, and acetanilid Many of these gave temporary relief, but no treatment was satisfactory until per-oxide of hydrogen spray was used. Since then the writer has employed it in other patients and with the same success.—Ralph W. Leftwich, M. D., in *London Medical Record*, June 20th, 1890.

Sysol, Another Antiseptic.—Dr. Gerlach, of Wiesbaden, has described the antiseptic power and advantages of Sysol, which he has recently used with much success in Wiesbaden. As a bactericide it is most powerful, and it is cheap. Sysol is not confined to use in closets, stools, washings, etc., but may be applied anywhere in the domain of medicine without any danger of poisoning or of discomfort. The active principle in Sysol is cresol. Gerlach believes that the drug will be of real value, and that it will come into general use.—*Med. Record.*

Mixture for Chapped Hands.—According to the Times and Register, the following is a useful application for chapped hands:

℞ Menthol, grammes 0.80.
Salol, grammes 2.00.
Olive oil, c. c. 2.00.
Lanolin, grammes 46.00.
M.

Apply twice daily.

Therapeutic Effects by Suggestion.—A man visited a well known Parisian physician's office, and the following dialogue occurred:

Patient—"I am suffering greatly doctor."

Physician—"What appears to disturb you?"

Patient—"I have such susceptible bowels, that yesterday, seeing *a man eating a melon*, I was immediately attacked by colic."—*Cincinnati Lancet and Clinic.*

Gurjun Balsam.—Gurjun Balsam is recommended by Murell as an expectorant in bronchitis, possessing a special advantage over copaiba oil in that it induces no such severe burning in the throat. He prescribes grammes 7.50 Gurjun Balsam, with grammes 30.00 malt extract, thrice daily.—*Lancet*, 1890, p. 962.

Medical Progress.

PICHI IN GENITO-URINARY DISEASES.*—In encountering adverse conditions, Pichi has proven no exception to the general rule; and as I was the first to call the attention of American physicians to the remedy—this being done, I may say, independently and ignorantly of its almost simultaneous introduction into France—I have taken unusual interest in following all the details of its several vicissitudes, and have been greatly gratified with the steady manner in which, on the whole, it has made its way to a permanent and growing field of usefulness. The first notice of it in English, so far as I know of, was my paper in the Therapeutic Gazette of December 15th, 1885, p. 110, when I presented as its probable range of action: 1. *The relief of chronic renal congestion without organic degeneration:* 2. *Of catarrhal inflammation of any portion of the genito-urinary tract*, no reference being had to gonorrhœa: 3. *A stimulant to digestion and a hepatic stimulant.*

I was careful at the same time to point out that it would probably prove injurious in kidney diseases where there was organic change, and to disclaim any belief in its reputed power to remove calculi. I was also careful to indicate the active portion of the plant, and the strong possibility that other portions would be used, and with disappointing results. My reason for this opinion was the fact that, according to the barbarous customs of Chili, where the shavings of the wood are commonly used, tumblerful doses of the decoction are swallowed. I appreciated the fact that should any considerable demand for the drug arise, it would be obtained through commission houses, who would purchase it directly from the natives, they in turn collecting it according to their own customs, and that we should have, as a result, a commercial product prepared almost wholly from the wood, which could not be effective except in great doses, and which being used, as was certain to be the case, in doses proper for the preparation from the active portion of the plant, must necessarily result in disappointment. This opinion, as will be seen further on, has been unhappily justified to a most unusual degree.

The first physician to experiment extensively with the subject of my sketch was Dr. Hal C. Wyman, of Detroit, who found that it produced complete cures in almost every case of cystitis following surgicial operations upon the urethra, rectum, or uterus, at the same time curing, in several cases, a chronic cystitis which had long preceded the acute attack for which treatment was instituted.

The next was Dr. A. Rodriguez, of Buenos Ayres, who found it especially valuable in inflammation of the bladder caused by the mechanical irritation of calculi; also that it in many instances caused the dislodgement and expulsion of calculi small enough to pass through the urethra. He in addition found it of marked value in the treatment of jaundice and dyspepsia due to deficient biliary secretion. It is important to note that this gentle-

* By H. H. Rusby, M. D., Professor of Botany and Materia Medica in the College of Pharmacy of the City of New York.

man administered from two to three ounces per day of the fluid extract. There is little doubt that the preparation here referred to was of the native drug, consisting largely of wood, as this amount of the fluid extract of the leafy tops would have proven highly injurious to his patients.

The next important notice is in the report presented by M. Limousin, at a meeting of the Therapeutical Society at Paris, in which he expressed the opinion that the resin contained in the drug possessed the power of dissolving the mucin holding together the parts of the calculus, and thus tending more or less to disintegrate it, a statement that was confirmed by M. Dujardin-Beaumetz.

Dr. H. S. Delamere (Medical Record, November 12th, 1887) next presented a communication showing its great value in the treatment of cystitis following gonorrhœa.

Dr. A. G. Ward (MEDICAL AGE, 1887, p. 229) reported on its value in an obstinate case of pruritus vulvæ accompanying vesical irritability.

Dr. J. H. De Wolf, of Baltimore (MEDICAL AGE, 1887, p. 249), concludes from clinical trial: 1. That Pichi is a diuretic: 2. A urinary sedative.

In the Therapeutic Gazette, 1888, p. 240, Dr. J. H. Tressel reported painful gastric disorders produced by the use of excessively large doses of the fluid extract of Pichi; at the same time he reported benefit from its use in cystitis accompanying renal congestion as the results of a cold.

Dr. Peyton Greene (Therapeutic Gazette, 1888, p. 368) reported success in the treatment of chronic cystitis, and in cystitis following childbirth; he also expressed the opinion that its lithontriptic action would seem to consist rather in its action as an antilithic than as a solvent.

Dr. George Chaffee (MEDICAL AGE, 1888, p. 82) was the first, so far as I know, to report favorably upon its action in the treatment of hæmaturia renalis. In this case the symptom was the result of Bright's disease, and was unusually severe, several times threatening the death of the patient, and relief was in all cases promptly obtained by the administration of Pichi.

In the MEDICAL AGE, 1888, p. 318, Dr. Oscar S. Armstrong, reporting upon a number of important cures of chronic cystitis, refers particularly to the reduction of inflammation believed to have been caused by the induction of abortion.

In the North American Journal of Homœopathy for 1888, Dr. Knight found that it produced the best results in allaying a tendency toward a hypersensitive condition of the bladder and urethra bordering upon a true inflammation.

To these I might add a report, given me verbally by my friend Dr. Laurence Johnson, of New York, who found that it increased the severity of acute gonorrhœa. As a result of his trials of its various conditions, he believed that its greatest value was in overcoming chronic indigestion.

The above are selected from more than one hundred published reports which I have collected, not as being specially favorable, but merely as indicating special features of the therapeutic action of Pichi. In the meantime great numbers of reports were published of cases, of which the above may be considered as types, and almost invariably confirmatory of the favorable conclusions therein reached. Without presenting the details of these reports, I may draw from them the following generalizations:

In the treatment of acute cystitis following surgicial operation, childbirth, gonorrhœa, or accompanied by acute congestion of the kidney, relief is prompt and strikingly marked, without any published exception except one.

In the treatment of chronic cystitis relief is customary and a cure frequent, the results being probably as good as can be anticipated in chronic diseases, where a neglect of treatment or of its regularity, is the almost invariable rule.

As an antilithic, its use very rarely results in disappointment. As a lithontriptic the remedy has met with its chief reverses.

What might be accomplished by urethral injections of a strong solution is not known. So far as I am aware, no experiments have been made in this direction; there, however, is abundant evidence leading to the conviction that small calculi are very frequently dislodged and carried away as a result of free treatment with Pichi, and a prominent practitioner in Louisville has quite a large vial filled with these, which he claims to have removed by the aid of Pichi alone.

The original statements concerning its effect in chronic Bright's disease now require to be accepted with some modification. Notwithstanding the fact that the amount of albumen is often increased, there are a number of cases in which unquestioned and great benefit has resulted in the treatment of this form of disease by Pichi; and it is very possible that later and more scientific investigations will show us in just what class of cases of chronic Bright's disease it can be used with advantage.

In the treatment of hæmaturia, particularly, many fortunate results have been reached. At least half a dozen cases have come to my personal knowledge, where our most distinguished practitioners failed in their application of the ordinary remedies, and in which complete relief was afforded by the administration of Pichi. In one of these the patient, himself a prominent physician, had previously returned from treatment in Europe as the result of which all hope had been abandoned.

But little systematic attention also has been given to the effects of this drug upon the liver, and yet there is in the reports sufficient evidence to show that there are rich results in store for some practitioner who will patiently investigate its action in this direction. The treatment of dyspepsia and indigestion by this remedy is also an excellent field for clinical research.

One serious objection to the remedy has frequently been urged, namely, its very disagreeable flavor; but this is happily overcome by the use of a solid extract encased in gelatin capsules. Another was its tendency to upset the stomach on continued administration; and this was overcome by pushing it for a few doses, and then ceasing the administration for a short time.

It is particularly instructive to note that in South America, and to a great extent in Europe, where the woody stock is consumed,

two and three ounces are given in a day, while here we find as many drachms of a perfect preparation eminently satisfactory. Clearly disappointment often lies in the carelessness of the prescriber! Many physicians object on principle to specify the preparation upon their prescriptions; but in this class of cases there is no other road to success. Unless the physician satisfies himself that the preparation of Pichi dispensed upon his prescription is made from a drug especially collected to order, he need not look for a uniform, and scarcely for a favorable, result. Indeed, it has been a common incident in the history of this drug, that where specifications have continued for a time, and then, through the carelessness born of success were discontinued, an entirely different product was substituted with an immediately unfavorable result. — *Medical Record*, July 5th, 1890.

THE OPERATION FOR LACERATED PERINEUM. — Dr. Alexander Duke, F. C. P. I., Gynæcologist to Steven's Hospital, Dublin, says:

I have designed a new operation for the restoration of a lacerated perineum, easy of performance, which will, when properly executed, form a good perineal floor, and I might almost say, practically a new perineal body. The patient is placed in the lithotomy position, the left index finger being introduced almost its entire length into the rectum; a long straight double-edged bistoury is made to pierce the tissues in front of the anus at right angles to the vulva, and, guided by the finger in the rectum, made to penetrate the septum for two and a half inches upwards, the incision being enlarged laterally to two inches as the knife is withdrawn.

The patient is then turned on her side, and on the points of incision being pressed together, a lozenge-shaped opening will be seen, and when all sutures required have been introduced and are properly adjusted and approximated, the two cut surfaces are brought into apposition. The sutures are introduced by a strong cycle-shaped needle with eye near the point, mounted on a handle, strong silver wire being the suture preferred.

The needle is introduced at lower edge of the incision, and guided by a finger in the rectum, is made to travel over the cut surface to its full depth above, describing the arc of a circle; and, on the point of needle appearing *directly opposite*, it is threaded with suture and drawn through. On the ends of this suture being drawn together with the fingers, a good idea can be formed of how many additional stitches may be required. When all considered necessary have been inserted and approximated, a finger of each hand passed into rectum and vagina will at once recognize the gain in thickness of septum, the external tissue being pushed fully an inch forward from the anus, forming a thick and solid perineal body.

The incision being a deep one, on union taking place between the raw surfaces, a considerable amount of support must be afforded in cases where a pessary is required, or where there is much tendency to prolapse of uterus or vaginal walls. My experience of the operation, though up to the present limited, has satisfied me with the results; and there being *no loss of tissue whatever*, should the operation fail it cannot add any difficulty to a subsequent one.

Even should the perineum be lacerated to the verge of anus, what I describe can be done. I find that leaving the sutures for four days is generally sufficient, but if I am in doubt as to the union being strong, I cut the wire, but leave it *in situ* for a day or two longer, thus affording some support, and relieving the strain on the edge of the suture holes; and I also support the parts by long strips of adhesive plaster carried from hip to hip over the new perineum.

The wire should be stout and not too tightly twisted. My friend Dr. More Madden, has kindly given my operation a trial, and was much pleased with the results, especially in one of his cases where the old plan of operation had been tried previously but failed owing to the patient's poor state of health and a want of healing power. The advantages of my plan of operation are briefly:

1. The simplest of performance as yet proposed; no danger of hæmorrhage, the surface when dry being brought together:
2. No danger of sepsis, as the incision is not open for the admission of any di charge from either vagina or rectum during the healing process:
3. No loss of tissue, and consequently no harm done should the operation fail.

A CASE OF ACUTE ANALGESIN POISONING. — Loebisch, in his work "The Newer Remedies in Their Application and Action," makes various observations on the evil collateral effects of Analgesin.

A case of acute Analgesin intoxication which I had occasion to observe in my practice a few days ago, may be placed side by side with the second one mentioned by Loebisch in the main, but it seems to me to be worthy of mention owing to the special severity of the collateral symptoms.

A young lady of about 22 years, well nourished but decidedly hysterical, for some time past had been taking, at the direction of her physician, in complaints of an alleged neuralgic character, Analgesin in single doses of one gramme. During the forenoon the young lady had been very well, indeed joyously gay, but after her noonday dinner she took one gramme of Analgesin for the first time. In about three minutes she began to complain of peculiar pressing pains in the back of her head. After a few minutes more, roaring and ringing in the ears, dizziness and disquietude, ensued. Then came a fearful palpitation of the heart, great difficulty in breathing, cold perspiration on the face, strong sensation of heat in the whole of the right half of the body, and a feeling of great cold and numbness in the whole of the left. After about twenty minutes from the appearance of the first symptoms of poisoning, everything became black before the patient's eyes. After a few minutes more, complete amaurosis ensued, which—and this is the most remarkable feature of the case—persisted for half an hour, and then gradually disappeared.

An examination of the eye with a Wecker mirror showed nothing else than pronounced

hyperæmia of the optic nerve, with slight blurring of the contour of the optic disc. The conjunctiva bulbi was likewise distinctly hyperæmic; abundant tear secretion, rather ex-ophthalmic. Besides, the face was greatly flushed; the lips cyanotic.

Subjectively, the right side of the body felt warm; the left, which showed especially in the hand the cyanotic coloring, was icy cold.

The palpitation was very marked. The pulse during the first hour was 200 beats per minute, possessing an altogether thread-like character. Respiration difficult and increased.

Speech was difficult. High degree of general excitation.

After about an hour and a half, an urticaria exanthema appeared, accompanied by severe burning, which later changed into itching, taking possession particularly of the right hand and the extensor side of the right arm, and covering also, with less diffusion, the fore-surface of the neck. The left side of the body remained altogether unvisited by the exanthema. In the course of the afternoon, brief, severe vomiting ensued. The exanthema disappeared the evening of the same day.

The remaining symptoms also visibly receded in the course of the afternoon and evening.

The high pulse alone diminished slowly, so that even at noon of the following day 90 beats could be counted. Likewise the pulse lost very gradually its feebleness and ready suppressibility.

On the next, and also on the day following, the patient felt very much prostrated.

She has now, however, completely overcome the intoxication, and no evil results are still present. It remains only to be repeated that the patient formerly bore Analgesin very well —whether in the same doses or not, could not be determined. Furthermore, that in combating the intoxication I gave, apparently with good results, grammes 0.13 caffeine every hour.

If I may be permitted to add to this instance various others, less typical, which I have observed, partly during my student-life and partly during my practice, and if I further reflect how strikingly ill-borne Analgesin proved in several cases during the last influenza epidemic, I shall at least conclude that with the administration of Analgesin in general, and with its dosage in particular, we must proceed very cautiously.—Dr. Schwabe, of Woldenberg, Neumark, in *Deutsche Medizinal-Zeitung*, June 5th, 1890, p. 501.

THE TREATMENT OF EMPYEMA.—The course of empyema depends so much upon the individual peculiarities of each case, its ætiology, the age, strength, and diathesis, that no hard-and-fast rules can be laid down for its treatment. But it is a disease which always calls for interference on the part of the physician, and hence it is one upon which much faithful study can yet be made. The recent discussion of this topic before the German Congress of Internal Medicine, at Vienna, is of especial interest, because it shows the views of many leading European physicians and surgeons regarding treatment. The main point at issue in the debates in question was that of the extent and character of surgical interference; for it is agreed by all that, except in rare cases of small sacculated empyemas, some such interference is indicated.

Professor Immermann, of Basle, who opened the discussion, stated first of all that the pus must be evacuated by operation, and next, that simple aspiration will not answer except in small empyemas, which would become absorbed of themselves. The plan recommended by Bulau, of permanent aspiration by inserting a trochar connected with an elastic tube which leads into an antiseptic solution, was spoken of most favorably. Immermann collected statistics of 49 complete cures out of 57 cases. It is not suitable, however, for cases of inexpansive lung, pyo-pneumothorax, or pulmonary fistula.

Dr. Schede, of Hamburg, took the surgeon's view of the matter, and advised the radical operation, *i. e.*, resection of a rib. Bulau's operation he thought much less safe than resection. The site of incision should be as low as possible. It was best to incise about six centimetres of the ninth or tenth rib.

Dr. Curschmann, of Leipsic, had treated all cases in the past ten years by aspiration-drainage (Bulau's method). Among 73 cases, 89 per cent. were cured and 6 died. Professor Leyden spoke favorably of Bulau's method.

Dr. Ewald, in 1874, had collected statistics in Frerish's clinic, of 109 serous and 46 purulent cases, and then concluded that, of 1,000 cases, 928 do not get well with simple puncture, while 528 are cured by the radical operation. The results of surgery to-day are much better than that. In the present year he had, with Köster, operated with the double incision in 9 cases, with one death from rapid tuberculosis. The operation was done as soon as the nature of the case was proved. The objections arising from old cases would be obviated if early interference were the rule.

Professor von Ziemssen (Munich) had for ten years past treated all empyemas by incision and rib resection, and was perfectly satisfied with this method.

Dr. Mosler, of Greifswalde, brought up the important point of prophylaxis. For the purpose of preventing serous effusions becoming purulent, he took measures against the invasion of streptococci and staphylococci by the mouth, nose, and pharynx. After the operation he washed out with boracic acid, and then injected iodoform and glycerin.

Dr. Runeberg, of Helsingfors, treated all empyemas by rib resection, and did not wash out. He had thus dealt with 63 cases, of which 2 were still under treatment. Two were manifestly tuberculous, 10 were due to pulmonary gangrene, 49 were simple empyemas. Of these latter 46 were completely healed; in 2 fistulæ remained; one case died from erysipelas. The average duration of treatment was forty-eight days.

It will be seen that the opinions were mainly divided upon the question of aspiration-drainage or resection. No one seemed to advocate the method very commonly employed in this country, viz, simple incision and drainage. Excellent results are obtained by this plan. All were agreed upon the fact that injections were useless.—*Med. Record*, June 7th, 1890.

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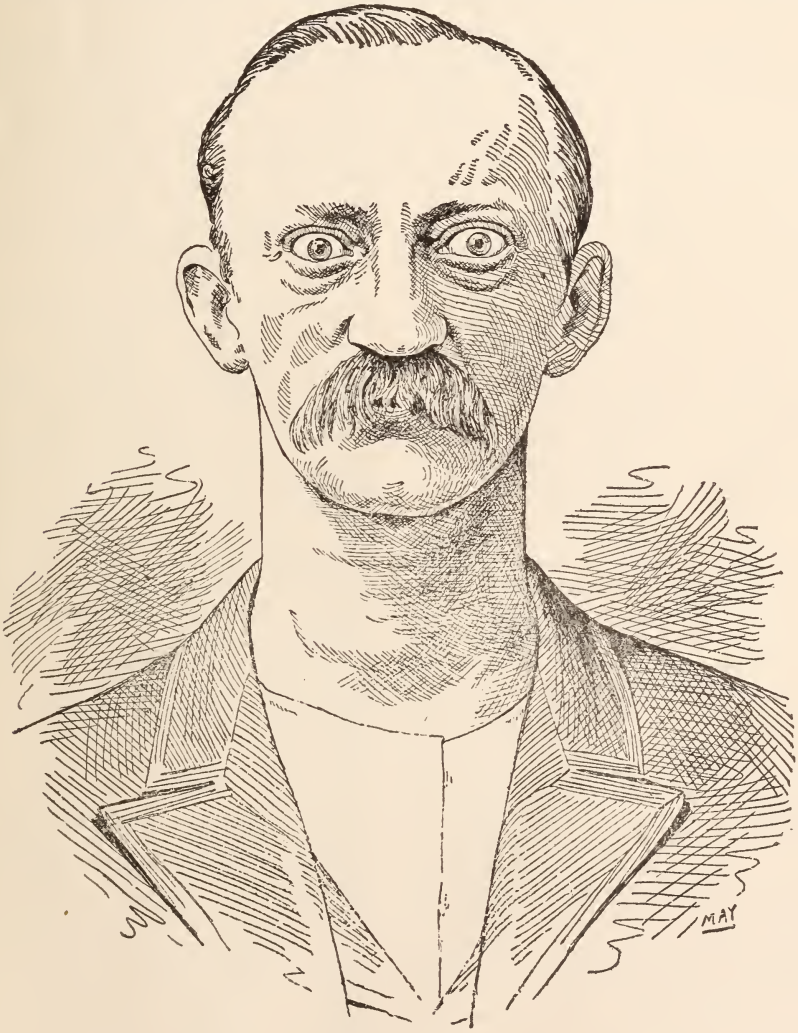
Original Articles.

EXOPHTHALMIC GOITRE.*

BY W. J. HERDMAN, M. D.

During the past eight months I have had under observation and treatment, five cases of exophthalmic goitre [Graves' disease; Basedow's disease]. As this is rather an unusually large number of cases of a disease hitherto regarded rare, to occur in the experience of any one practitioner in so short a period, and it has afforded such an excellent opportunity for comparison of symptoms and the study of conditions which attend the development of this peculiar affection, I have thought it a suitable subject for presentation and discussion. In the first place, it seems to me quite probable that the disease is not as infrequent as it is presumed to be, but may in many instances have been improperly



CASE NO. 1.

* Read before the Michigan State Medical Society.

diagnosed owing to a lack of familiarity on the part of the attending physician with the symptoms which characterize it, or to the absence or undue prominence of one or more of the chief diagnostic features upon which it is based. Some of these cases seem to emphasize this supposition; and if, in calling attention to this subject no more is accomplished than to secure a careful observation of associate symptoms in all cases of prolonged cardiac weakness without organic lesions or other apparent cause, much will be gained in clearing up the mystery which now surrounds the pathology of this peculiar affection.

CASE 1.—Swede; age 39; married in '78; one child; teacher by occupation. Always well till '77, when he had malarial fever; never has had any specific disease. Two years ago had brain fever; has not been strong since; lost his hair at that time. Digestion good; drinks freely of coffee and tea daily — no other stimulant; bowels regular. Circulation rapid and slightly irregular, 112–140 per minute; no cardiac lesion. Respiration 28 per minute; troubled some with shortness of breath. Rises one to three times a night to urinate, but analysis reveals nothing abnormal. Since marriage, never completes coition, the object being to prevent conception.

Nervous Symptoms.—Restless, especially at night; easily excited; rarely dreams. The sensations are normal; there is no tenderness along the spine; no sensations of prickling, or flashes of heat. He first noticed in '87 that his eyes began to protrude, and the thyroid gland became enlarged. It is less prominent than it was a few months ago. His eyes are now quite prominent, but the vision is good, better in right than left eye. The movements of the eyeball are free in all directions; never any pain in the region of the eyes; the lids act in harmony with the movements of the balls; the pupils are small, but respond readily to light; there is no *arcus senilis;* the eyelashes and hair of the eyebrows have never dropped out; there is slight discoloration of the eyeballs, but never has been any discoloration or bronzing of the skin. No œdema has been noticeable at any time in any part of the body.

CASE 2.—German; age, 32; unmarried; occupation, housemaid. Both parents died from inflammation of the lungs; has two brothers living and well, another died of lung trouble. Never has had any serious illness or injury. About four years ago friends called attention to the prominence of the eyeballs. Her eyes were at times painful, with sharp darting pains at intervals. Has a ravenous appetite, but poor digestion; three hours after eating is troubled with pain in the epigastrium which extends over the abdomen and upwards to the shoulders. Some years ago was troubled with obstinate vomiting and faintness in the morning. Bowels regular. Circulation now less rapid than it has been since she has been taking cardiac stimulants (digitalis and strophanthus); pulse is 110 and regular; there is probably no organic change in the heart, although when at her worst, some weeks ago, a distinct systolic bruit was heard, which was thought to be due to mitral insufficiency, but this is at present less apparent. Flushings of the face and other parts of the body are often felt. Sweats freely at night, which she thinks weakens her. Respiration is often affected, shortness of breath being frequent; respiration 20 per minute when in repose. Menstruation is normal. No disorder of the kidneys or bladder.

Nervous Symptoms.—She is quite easily excited, though naturally phlegmatic. There is no spinal tenderness, but a feeling of numbness in the upper extremities, especially along the ulnar sides of the hands. The eyeballs are not nearly so prominent as they have been, yet the palpebral fissure is still considerably enlarged. The lids move in harmony with the eyeballs; the movements of the eyes quite free, and the pupils are normal in size and reaction; the *arcus senilis* is wanting. The hair of the eyebrow and eyelashes remains unaffected, and there never has been any pigmentation of the skin. No noticeable œdema in any part of the body at any time. Temperature 99.

CASE 3.—Age 42; housekeeper. Mother died of heart disease, attended by dropsy; father died of erysipelas. Several uncles troubled with disorders of digestion, one having died of disease of the stomach, probably malignant. Has uterine displacement attended by menstrual disorder; never has borne any children; one miscarriage. About two years ago health began to fail, with symptoms of indigestion, and cardiac weakness and dyspepsia. Extreme rapidity of pulsation of heart. Sleeps poorly, and has lost flesh. Digestion appears quite variable; at times good, but very commonly has nausea and eructations, with excessive accumulation of mucous in the fauces; bowels inclined to costiveness. Circulation quite rapid, 112 to 120; no structural change in the heart discernable. When heart's action is very rapid and feeble, there is a feeling of constriction about the chest, and gasping respiration. Temperature normal. Analysis shows some uric acid and a few crystals of oxalate of lime, but nothing else abnormal. Frequent desire to urinate, and quantity somewhat increased. There is at present no indication of pelvic disease, except occasional pain in the sacrum if fatigued. Menstruation regular.

Nervous Symptoms.—Naturally nervous and excitable; there is now greatly increased apprehensiveness, antipating evil; no pain except from indigestion and occasional distress in the precordial region; there is decided tenderness on pressure over the last cervical and first

dorsal vertebræ; a feeling of tension about the eyeballs, with a marked widening of the palpebral aperture; eyes soon wearied in use. Other special senses acute; no abnormality of common sensations or motor functions; great muscular weakness and fatigue induced by slight effort. The eyelids move in harmony with the eyeballs; no noticeable change in the pupils. There has been no loss of hair from the eyelashes or eyebrows. The skin of the face, neck, and hands discolored by brownish pigment in patches more or less irregular in outline and depth of hue, their size varying from a diameter of two lines to several inches. Œdema of the ankles, and over the tibiæ and about the eyelids, frequently noticable, especially early in the morning. There is marked enlargement of the thyroid gland, but it is soft and yielding, giving the "cushion feel" that is spoken of by some observers.

CASE 4.—Age 29; housekeeper. Parents both living, about 60 years of age. Father has dyspepsia; mother threatened with "brain paralysis." Two brothers living; six dead—three drowned, one died of typhoid fever, two scarlatina. Two sisters living—one nervous, and has female weakness, the other has heart trouble. Paternal grandmother used to have attacks of insanity when pregnant. One uncle has been in an insane asylum. Has always been very nervous; a year ago, in February, had an attack of cellulitis, followed by inflammation of the ovaries. Last October eyes began to trouble her; had excessive flow of tears, accompanied by dull aching strained feeling. Husband says her eyes are open when she sleeps. Last August friends noticed a slight bulging of the eyes, and her neck enlarged so as to require larger collars. There is at present (March 4th) great protrusion of the eyeballs. Sight and other special senses normal. Appetite good; tongue clean; teeth poor; digestion good; bowels irregular. No heart lesion; pulse weak and rapid, 120 per minute. Passes water frequently and a "pinkish" sediment is often seen after it settles. Has leucorrhœa; menstruates "too often or too soon," the flow scanty. Has considerable bearing-down pain.

Nervous Symptoms.—Has much trouble in the back, as if it were becoming unjointed. Heavy, dull tired feeling, chiefly across the hips. Has a feeling of weight on top of the head. Has much pain in the sides, but feels strong. This patient was given ergot and iron, but could not remain, so the further progress of her case is not known.

CASE 5.—Age 36; teacher. Father died, aged 69, from "paralysis of nerve centers." Mother and one brother living and in good health. Two brothers and one sister died in infancy, of infantile diseases. Health has been, as a rule, excellent. Eight years ago, had an attack of intermittent fever. Middle of March last, without any apparent cause, her heart's action began to be very rapid, so as to disturb and to attract attention. This was attended with loss of sleep and restlessness. Her heart was disturbed especially after meals. She would have distress for about two hours after breakfast with extreme rapidity of the heart-beat, and feebleness of its action; it would then quiet down and she would feel better all day. Digestion not affected except that taking food so disturbed the heart as to make it very distressing. If, in spite of this, she forced herself to eat it caused some indigestion. Circulation has been so rapid and feeble at times as to be difficult to count; the pulse would often reach 160 per minute, and the pulsation irregular, is seen in the tracing [No. 5]. There is no organic or structural changes to be detected in the heart, though a systolic *bruit* was at one time quite noticeable. Respiration has at no time been much affected. Menstrual and urinary functions are normal.

Nervous Symptoms.—Is naturally very quiet and self-controlling, but during this attack has been very nervous, restless, and sleeps poorly. There is slight fullness of the thyroid gland, but there has been no noticeable increase during this attack. She had goitre when a child, and was treated for it.

During the first few weeks of her illness, in March and April, there was considerable prominence of the eyeballs; this is much less noticeable now. She yielded readily to treatment, and her appetite and digestion are now good. She is much stronger, and is sleeping well. Pulse, 110. There is no spinal tenderness. There have been no flushings nor bronzing of the skin. There is harmony between the eyelids and the eyeballs. Pupils normal. No trophic changes in the hair or skin. Temperature, 99 in the morning. She has at no time had any pain, except that she describes a "rushing feeling in the region of the heart which would seem to be relieved by pressing or holding the chest."

It will be seen from this list of cases that of the three prominent symptoms which have been chosen to characterize this disorder as a distinct affection, i. e., protrusion of the eyeballs, enlargement of the thyroid gland, and rapidity of the heart's action, the last is the most constant; next in order of frequency is the exophthalmos, the enlargement of the thyroid gland not always being present, even though the other two may be excessive, as in Case 5. Many symptoms recorded by other observers have been more or less present in these cases; these in the order of frequency are: Marked emaciation, restlessness, sleeplessness, nervousness, excitability, disordered digestion, vomiting, flushing, œdema, increase of temperature, and bronzing of skin. These symp-

toms are perhaps dependant upon the impaired nutrition, resulting from disordered circulation, and upon the temperament of the patient, and peculiarities of constitution; none of them, apparently, being essential features in the pathology of the affection. It has occurred to me in the study so far given to the pathology of exophthalmic goitre that, as in the order of prominence and frequency of symptoms, the acceleration of the heart's action is the one which should be regarded as the starting point for the interpretation of the disorder, and if its cause can be satisfactorily explained from a physiological point of view, a natural progress could then be made to an explanation of the other symptoms in their proper order.

The heart's action can be accelerated either by a removal of the inhibitory influence conveyed through the pneumogastric, or rather the spinal accessory fibres which accompany it, or by directly exciting the cardio-accelerator nerves. "The accelerator nerves of the heart originate in the spinal cord" at the lower portion of the cervical enlargement, "from which they pass by communicating branches to the lowest cervical and upper dorsal sympathetic ganglia and thence to the heart. When stimulated they cause the heart to beat quicker." [Martin's Physiology, page 252.]

Only absolute or decided interruption of the stimulus conveyed along the pneumogastric could have an effect upon the heart's action at all approaching that caused by an irritation of the cardio-accelerator center or its branches in their course. In a pathological process which is gradual in its onset, the first effect apon a nerve center or conducting fibre is, as a rule, to excite unduly its normal activity—produce an exaggeration of its normal function. Should the origin or trunk of the pneumogastric be the seat of lesion in exophthalmic goitre, as has been suggested by some pathologists, the primary effect upon the heart would, in all probability, be an inhibitory one, and we would have in the beginning of the disorder an abnormal slowing, rather than an increased rapidity of the heart's action. But this does not accord with clinical observation. The rapid action of the heart is the first symptom noticed by the patient, as in the cases cited. Again, according to the same rule, a primary disturbance of the cervical sympathetic, which in a search for pathological changes has so often been found diseased, would cause a contraction of the calibre of the arterioles of the head and neck, and dilatation of the pupil, and it would only be after a complete interruption of conductivity through the cervical sympathetic that persistent flushing of the face and eyes and contraction of the pupil would be observed.

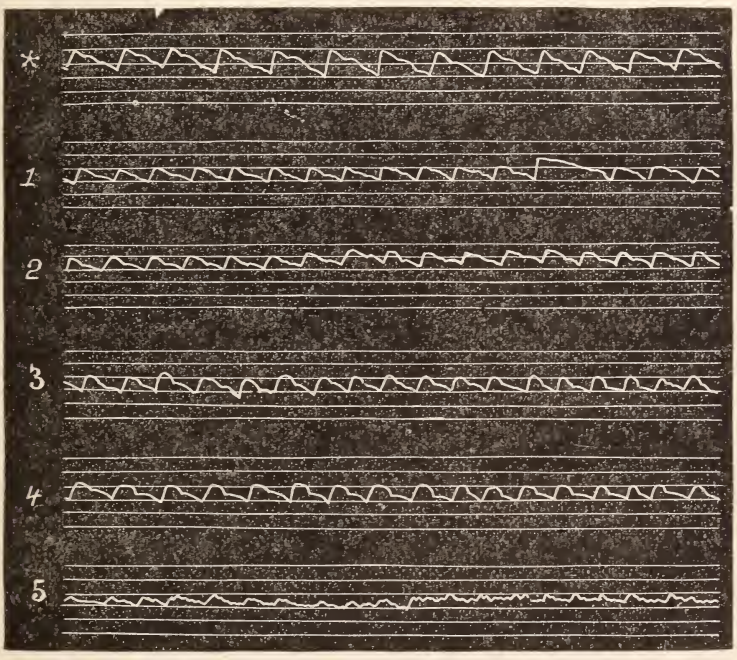
Where then might an irritating lesion or pathological change be located in the course of nerve distribution to the heart and eye sockets that would be most likely to give rise to acceleration of the heart's action and protrusion of the eye balls? Of all the theories that have been proposed to account for the exophthalmos, that one seems to me most tenable and satisfactory which attributes it to a contraction of Müller's muscle,—a band of unstriped muscular fibres, fully described by Sir William Turner, which stretches across the spheno maxillary fissure in the eye socket back of the eye-ball, and of which Jas. Ross speaks most positively as follows:

The orbital muscles of Müller are innervated from the cervical sympathetic. Irritation of the fibres supplying these muscles causes the eye-ball to protrude, and the palpebral aperture is then enlarged, while paralysis of these allows the eye-ball to fall back into the orbit, and the palpebral aperture is then narrowed.

If this is true, then we need no questionable assumptions, such as rapid increase of the orbital fat or congestion of the ocular vessels, (which, according to my experience, is never noticed in the early stages of the disease) to account for the exophthalmos, since an irritation of the nerve supply of Müller's muscle would satisfactorily account for it. At what point then could a lesion be situated so as to affect simultaneously both the accelerator nerves of the heart and the sympathetic nerves distributed to the orbit? This might occur either in the lower part of the cervical enlargement of the spinal cord where, according to Gaskell's recent researches, the nerves of both these sources find origin, or at any point where their conducting fibres remain associated until they separate to pursue an independent route to their respective destinations; these branches emerge from the spinal cord opposite the last cervical and two upper dorsal vertebræ, then pass into the lowest cervical and upper dorsal sympathetic ganglia; leaving these ganglia they separate, the fibres designed for the orbit passing up the neck in the cervical sympathetic cord, the accelerator branches passing directly to the heart. Many of the lesions that have been reported have involved these ganglia of the sympathetic, and indeed in the majority of autopsies that have been carefully made, it is in these primary ganglia of the sympathetic that changes have been found. But the same result in producing the clinical picture could be brought about by a lesion at any point where the nerves supplying these affected organs are in close relationship, whether at the origin at the spinal cord in their course to the ganglia, or in the ganglia themselves. There is much evidence that seems to point to the lower portion of the cervical enlargement as the primary seat of irritation. In one case reported by Geigel the

upper part of the spinal cord was found sclerosed, and in many others changes have been discovered in it. In one of the cases I have reported there is persistent numbness of the terminal distribution of the ulnar nerves in the fingers, and this being a bilateral disturbance would indicate a central cause which would locate the lesion in the spinal cord opposite the eighth cervical and first dorsal vertebra. In another case you will observe there is extreme sensitiveness over this point of the spine. These isolated facts prove nothing except as they have a physiological substratum to give them special significance. It would be well, henceforth, in our pathological researches, to look more carefully along this line of association of the accelerator with the ocular sympathetic for evidences of structural change. The enlargement of the thyroid gland may be a primary symptom, due to vaso-motor change directly affecting the blood vessels of the gland, but owing to the fact that few changes have been found in the gland, except those of vascular turgescence, and even this is not constant, I have been disposed to regard this feature as a secondary one dependent upon impeded blood flow at the heart and consequent dilatation of the thyroid veins. Of the three characteristic symptoms this is the least constant.

On the card of pulse tracings the first marked with an asterisk [*] is that of a normal cardiac and arterial impulse taken for comparison. It will be observed in the other tracings that the chief features that distinguish them from the normal is, frequency and lack of vigor in the systolic impulse; there is not a more forcible beat as has been stated by some authors. In No. 1 there is a loss of one cardiac impulse in 20, which is seen in the tracing near the end. In No. 3 the flat topped tracing is probably owing to mitral insufficiency. In No. 5 a continuous rapid action of the heart for several weeks, before the treatment was begun, resulted in threatened exhaustion of the cardiac muscle which is plainly indicated in the tracing. In case No. 1, although the prominence of the thyroid gland is less marked than in many, it is much more so than is shown in the accompanying illustration.



PULSE TRACINGS IN EXOPHTHALMIC GOITRE.

The therapeutic agents that have by common consent proved the most serviceable in the management of this affection are: Galvanism, digitalis, ergot, iron, bromides, and nerve tonics such as arsenic, phosphorus and zinc.

All writers seem to argue that, of these agents, Galvanism is the most valuable, but there is no uniformity in the directions as to the method of applying it. I have, from my experience, some reason for testifying to its efficacy, yet I think it quite important that the reverse current be used, and that it be passed as nearly as possible through the irritated nerves, with a view of producing a sedative action upon them and the nerve centre in the cord from which they originate. I have never used a stronger current than twenty

milliamperes; seldom more than ten. It is probable that a congested state of the centre in the spinal cord or of the sympathetic ganglia may be present and be corrected by this means.

As to the medicinal agents mentioned, they are to be employed according to the indications in each case, and their tolerance by the patient. I have found in some cases a combination of belladonna with digitalis and nux vomica, of marked benefit in controlling the rapid action of the heart, but the correction of indigestion and sleeplessness is of primary importance in conserving the patient's energy, which is, otherwise, in most cases rapidly dissipated.

ANN ARBOR, MICH.

THE FUNDAMENTAL FACTORS IN THE CAUSATION OF THE INFECTIOUS DISEASES.*

BY VICTOR C. VAUGHN, M. D.

The discovery of the micro-organism of a certain infectious disease furnishes only one of the factors, the concurrent existence of which is necessary to the production of the disease. Bacteria alone, even those of the most virulent type, are not capable of causing diseases unless the conditions be favorable. White mice inoculated with the *bacillus anthracis* invariably die; rats inoculated with the same germs in the same manner frequently remain unaffected. Anthrax is exceptionally fatal to some domestic animals, while others are wholly immune to this disease, and cases of inoculation of man usually terminate in recovery.

These facts in regard to anthrax can be duplicated by similar statements concerning each of the infectious diseases. However, as all will readily admit the truth of these assertions, the citation of specific examples will be unnecessary.

It may be said that in the cases mentioned, the animals not susceptible belong to different species from those which are susceptible, and the question may very properly be asked whether or not similar instances of ready susceptibility on the one hand, or of marked immunity on the other, can be found among animals belonging to the same species? Many instances will occur to the practicing physician in which, of a number of persons apparently equally exposed to the same contagion, some were attacked by the disease, while others escaped altogether. A child with the rash of scarlet fever well developed, or with a diphtheritic membrane already formed in its throat, plays with a number of healthy children, and in due time some of those exposed show the symptoms of the disease, while the others remain in perfect health. A hundred persons drink of the same polluted water. One-tenth become infected, and nine-tenths escape. However, as numerous as illustrations of this kind may be, they can never amount to a scientific demonstration of the propositions which I believe to be true. There is always the possibility that by some happy accident a large number of those who have been brought in contact with the ill person have really not been brought in direct contact with the germs of the disease. The organisms may have been unequally distributed in the air, or in the water, and not all of those who were unfortunate enough to breath those portions of the air, or to drink of those glasses of water, which alone contained the germs, fall ill with the disease. These are possibilities which prevent us from drawing any conclusions from premises so exposed to error. However, that animals of the same species vary markedly in their susceptibility to disease, is a fact not dependent upon any questionable demonstration. The valuable experiments of Tresham show that even animals of a highly susceptible species, after having been inoculated with tuberculosis, may, where the environment is hygienic, remain wholly unaffected. Lehmann observed that of a large number of children inoculated with tuberculosis, during the operation of circumcision, only thirty per cent. unsuccessfully resisted the disease. Illustrations of this kind might be multiplied, but it can hardly be necessary to do so in order to establish the proposition that the pathogenic germ is only one of the factors in the causation of an infectious disease; there must also be susceptibility on the part of the animal into which the germ is introduced.

But what constitutes susceptibility? Physicians for generations have talked about "susceptibility," but do we know anything about it? The extreme bacteriologist believes that the presence of a pathogenic germ is the sole essential in the production of a given disease. Baumgarten, for instance, rejects all ideas of the supposed resistance on the part of the animal inoculated. He does not believe that there is such a factor as predisposition. According to him, the most robust fall a prey to the *bacillus tuberculosis* as readily as the weak and frail; the healthiest man, when actually inoculated with the germ, must succumb. In other words, the cells of the body of man, the most highly developed animal, have no powers of resistance. If this be true, it certainly is a wonder to me that man has survived through so many generations, and certainly a greater wonder that he has continued to develop.

But this view of the extreme bacteriologist, we know is not the true one. The spread of infectious disease is combated and limited by the physiological resistance of the living body.

*Read before the Michigan State Medical Society, June 19th-20th, 1890.

This has been demonstrated to be true in the case of the lower animals. The domestic fowl in its ordinary condition of health is not susceptible to inoculation with the bacillus of anthrax, but if the temperature of the fowl be lowered by the continuous application of cold water to the surface, it falls a victim to the germ. On the other hand, all the processes of life in the frog are most vigorous at a comparatively low temperature; its digestive ferments are most active at a temperature but little above that of the freezing-point. High temperature weakens and enervates the frog. At his normal temperature this batrachian possesses complete immunity against anthrax, but when weakened by being kept in warm water it also becomes susceptible. There is, then, inherent in all animals, and manifest to a greater or less extent, a physiological resistance to the infectious diseases. Were this not true, the world would have long since been depopulated.

All life is cellular. This is true of the lowest plant and of the most highly developed animal. In this unicellular organism, all the functions of life have to be performed by the one cell; it must absorb, digest, and excrete; it must fecundate and reproduce its species. As we ascend the scale of development, we find a greater number of cells in the body. Not only do these cells multiply in number, but there is a division of labor among them. And the more marked this differentiation becomes, the higher stands the organism. In man, some cells take upon themselves the duties of digestion, others those of elimination; some are concerned in locomotion, others in cerebration; some are cognizant of the external world, others reason from the facts thus recognized. Communities of cells engaged in the performance of a certain duty or duties constitute an organ; and these, with their paths of inter-communication, form our bodies. Health is maintained only when each of these various communities of workers does its duty fully. If the pancreas fail to elaborate its proper secretion, the food does not undergo the normal digestive changes, and the liver, the heart, the lungs, the brain, and in short the whole man, becomes diseased, or out of health. Now, has this complex organism been evolved without any means of combating cellular foes which may be introduced into their midst at any time? Certainly not.

What are the means with which the healthy body resists disease? A few years ago, the distinguished Russian morphologist Metschnikoff advanced the theory that white blood corpuscles and other leucocytes are the natural defenders of the animal body against bacterial invasion. These corpuscles are supposed, according to this theory, to fall upon the germs and devour them, and consequently the corpuscles are called phagocytes. All are familiar with the salient points which have been advanced in favor of the phagocytic theory, and all are equally familiar with the fatal objections which have been urged against it. I will therefore dismiss it with the remark that it cannot be considered tenable.

There are two avenues through which pathogenic germs may infect the body. These are the intestines and the blood. At least one of the digestive juices, the gastric, has been shown to be decidedly germicidal. The *comma* bacillus of Koch, and Eberth's germ of typhoid fever, as well as various other pathogenic germs found in drinking water, speedily die when placed in normal gastric juice, or other fluid containing as much as 0.2 per cent. of free hydrochloric acid. Indeed, I think that it can be said that every germ which has been shown to have the power of infecting through the alimentary canal, is destroyed by the action of a normal gastric juice for a few minutes—within half an hour at any rate. Here, then, we have one of the factors in susceptibility. If water laden with the germs of cholera or typhoid fever be taken into the stomach, they will survive or not according to the predominance of one or the other of the following conditions:

(1) The number of germs introduced is one factor. The greater this is, the more probability is there that some of the micro-organisms may pass on into the intestines; the number of germs as well as the kind is a factor in the production of an infectious disease.

(2) The amount and quality of the gastric juice is the second factor in the prevention of the intestinal infectious diseases. It may be said against this point that much water is taken between meals, and at a time when there is no gastric juice in the stomach. The germicidal action of the pyloric juice, which is present in the stomach during the intervals of digestion, have not been tested experimentally so far as known. However, the water taken into the stomach when empty, is absorbed directly from its walls, and if these walls secrete a germicidal fluid, it is highly probable that they are able to destroy germs at any time. There are probably other preventative factors resident in the alimentary canal which future investigation will discover.

What kind of germs may produce the intestinal infectious disease?

Germs are divided according to the food upon which they live into the saprophytic and parasitic. The former thrive only upon dead matter, while the true or obligate parasite can exist only on living matter. The parasitic forms are generally considered the most deadly, but I doubt very much the truth of this supposition. The micro-organisms of syphilis and leprosy are good examples of true parasitics; the same is true of the

gonococcus. None of these have so far been grown in artificial culture media. They refuse to grow save at the expense of some host. Their continued existence depends upon the continued life of their host, or on a transfer to another host. It is not in accordance with the well-being of the germ itself that it should speedily destroy its host.

A germ growing in the intestine does not necessarily feed upon living tissue. The food before absorption is not possessed of vitality. The most deadly intestinal micro-organisms belong to the class of saprophytes. They prove harmful by elaborating chemical poisons which are absorbed and which produce the symptoms of the disease and death. Any germ which is capable of producing a chemical poison in a flask of broth, is a dangerous guest to have in the intestines. Skillful bacteriologists have been searching for the specific germ of the summer diarrhœa of infancy, but there is no such organism. I have recently shown that three different germs are found in the intestines of infants with this disease. Each produces a chemical poison which causes vomiting, purging, collapse and death. These germs differ from one another sufficiently to be classed as different species, but all produce similar though not identical poisons. These poisons are albumens and, even when injected under the skin in very small amount, cause death. They resemble somewhat the venom of serpents, and the fact that death does not follow when very small quantities are used until two or three weeks after injection, suggests that their action must be catalytic. They set up certain changes in the blood which lead to death. These changes consist in the conversion of complex molecules into simpler ones, and in these alterations heat is liberated. In this lies the causation of the fever, for complex molecules cannot be split up into simpler ones, without the evolution of heat. The increased temperature is therefore a measure of the rapidity with which these changes go on.

The agent which is most potent in the prevention of the infectious disease through the tissues is the blood. Germicidal properties of this fluid have been abundantly demonstrated; and they are not due to any formed elements, but reside, as has been shown by Buchner, in the proteids. Blood wholly freed from corpusles and with its leucocytes destroyed by alternate freezing and thawing, still retains its germicidal properties. A healthy condition of the blood and lymph is therefore an important factor in the prevention of the infectious diseases.

But you are probably ready to ask: "Of what practical importance is all this?"

It has its practical bearings, and in brief they may be summed as follows:

1. All toxicogenic germs are dangerous when introduced in the body:

2. Filth may and does breed disease:

3. It is not necessary that milk should contain a specific germ in order to poison a child, or that a water should contain Eberth's bacillus in order that it may induce typhoid fever:

4. Wheresoever man builds for himself a habitation and poisons the soil about him and the water which he drinks, with his own excretions, there will be enteric fever:

5. A good digestion and a healthy gastric juice does aid in the prevention of disease:

6. We can still continue to treat consumption by good, generous feeding and constitutional treatment, without the risk of being denounced old fogyish and unscientific in our practice. Such practice is more scientific and more successful than such fads as the rectal administration of hydrogen sulphide gas and inhalation of hot air, which have been imported in recent days from France and Germany.

Our fathers who treated tuberculosis with cod-liver oil and recommended out-door exercise, but who carried no gas bags and knew nothing of the Weigert oven, were not such fools after all.

In conclusion let us state that the germ is only one of the factors in the causation of the infectious diseases. The other factors are to be found in disordered digestion and impoverished blood.

Ann Arbor, Mich.

HOW SHOULD THE CRITICAL STAGE IN PNEUMONIA BE TREATED?*

BY GEO. HENRY CLEVELAND, M. D.,

By the term "critical stage," I refer to that period of time surrounding the occurrence of a marked and decisive change in the course of the acute disease, and in the present instance I speak particularly of the "critical stage" in pneumonia. Again, it is rather more the few hours before the crisis comes—the *pre-critical* period, if such it may be called—that I have in view, and upon which I shall more especially touch.

It impresses me that this pre-critical period is *the* time, very largely, when the physician must have full command of all his forces, and be able to prognosticate wisely. I admit, unreservedly, that difficulty confronts me when I reach this point; and it is because of this that I now present the question as to whether *depressants*—or rather, *antipyretics*—or *stimulats* are here indicated? All that I have to say is based upon this interrogatory.

I meet with authorities who advocate, in no

* Read before the Michigan State Medical Society, at Grand Rapids. June 20th, 1890.

uncertain tones, that our most powerful cardiac depressants and febrifuge remedies should be used at that time in the course of a pneumonia when the heart is already weakened by its added burden, and the general powers of the patient are put to their keenest test. Then, on the other hand, I find solemn advice to exhibit alcoholic and other stimulants during the continuance of the same course of symptoms, and with a temperature already at that point wherein we feel decided apprehension. Certainly both of these plans cannot be simultaneously used without a defeat of purpose; and likewise, and with equal assurance, would untoward or negative results obtain were either system of procedure to immediately follow or precede the other.

The medical attendant at the bedside of a case of acute pneumonia, who can discern and discriminate the proper course to take, is indeed wise, and justly entitled to such distinction.

The proper course may not be the *antipyretic;* it may not be the *stimulant;* it may be the *expectant.* All this is what I wish to know; yet not so much in a given case do I ask for light. I recognize a differentiation between plethora and anæmia; between the strong and the weak; and it is the average case I speak of. What should be done during this critical period—during the few hours previous to the definite termination of this disease?

These antipyretic remedies are indicated so far as the temperature is concerned, but they are all depressants as to the cardiac muscle. Therefore, as it appears to me, it resolves itself into the question as to which is the greater and more dangerous condition, viz.: Hyperpyrexia with its degenerating influence upon the heart muscle, or a lowered bodily heat produced by remedies which detract from the heart a certain power now necessary and highly essential to be preserved?

It is this power—this cardiac power—which needs to be abundantly conserved against the possibilities soon to make draughts upon it.

Then this question comes to me: Can I not anticipate the crisis by artificially lowering the temperature in a rapid manner?—Which is immediately followed by another:—If so, is it a wise plan to follow, and what are the results of such procedure?—Or should I carefully watch my patient during those hours of expected change, and stimulate onwards, as well as to urge into action, all those forces which will rally to the support when the turning point is reached?

Allow me to quote just a few words from Bartholow, as follows: "As the period of crisis approaches, the utmost circumspection is necessary; the sudden defervescence and the occurrence of some exhausting discharge may tax too severely the vital powers. Suitable ailment, and appropriate stimulants, carefully administered, may then save life."—Here he refers to the treatment of acute pneumonia.

The first part of the above utterance covers exactly the position I occupy, viz.: That the "utmost circumspection" seems to be necessary as the period of crisis approaches; and it is along this line of "circumspection" that I seek guidance.

To follow on with Bartholow, we readily see that stimulants are recommended, of course in a careful manner, and in conjunction with properly prepared ailment. But let it be borne in mind that it is at this very point, and when it seems that if ever an antipyretic was indicated in the case, it certainly was when this condition of marked pyrexia maintained! This, together with the difficulty oftentimes met with in forecasting the turning point with anything like certainty, constitutes the haziness which seems to surround this particular period in the course of an average acute pneumonia.

Given a knowledge of the precise time when the crisis will occur; given an insight into the true condition of the heart, and the nerve centres from which emanate its controlling force; granted a picture of the inflammatory process beneath the chest wall; and the medical attendant could well decide, and quickly, as to the plan of treatment he would be justified in adopting.

I readily admit that the major part of these conditions *may* be ascertainable by the cultivated ear, the acute touch, and a carefully distinguishing consciousness; even the time when a natural depression of the temperature will occur can sometimes be foretold with a precision which, to the lay mind, borders on the marvelous.

When all this is the case—when the circumspection, before referred to as being highly necessary, has thoroughly conquered the object which has called it into existence, and a just conception and clear knowledge of all circumstances having a play and influence is won—then truly would stimulation have its place, and the tide of rapidly depressing forces be breasted by the vigor urged onwards by the artificial hand.

But short of all this, and as our case draws near to what we presume to be the critical stage, *should we control that high temperature*—which we are confident can be done so easily? Or, *should we cast aside entirely all antithermic remedies, and actively stimulate the already over-stimulated vital functions of our helpless patient?*

This is the question which I would respectfully submit.

PENTWATER, MICHIGAN.

CLINICAL NOTES.

PYOSALPINX—INTESTINAL LACERATION—OMENTAL GRAFTS.*

BY J. G. CARPENTER, M. D.

CASE I.—Negress, aged twenty-five years; has gonorrhœal pus tubes and purulent peritonitis; pulse 120; temperature 103;° consents to an abdominal section; the tubes and ovaries are diseased and adherent. In tearing through the adhesions the left tube was ruptured, and pus escaped freely into the peritoneal cavity; the peritoneal and muscular coats of the sigmoid flexure were lacerated on account of the adhesions to the sigmoid; the rent was one by three inches. The peritoneal cavity was irrigated with hot distilled water through the irrigator, the tubes and ovaries removed, and the wounded bowel secured and sewed by several intestinal sutures of fine silk. The abdominal wound was closed with four peritoneal and two superficial silk sutures; the drainage tube having been inserted, suction of tube was done every minute until the toilet was complete, then every half hour for four hours, then every four hours. When the drainage tube was found empty, it was removed and a rubber one substituted, which was dispensed with in thirty-six hours. The abdominal wound was one inch and a half in length. The wound tube and dressing were made aseptic. Patient recovered in fourteen days.

CASE II.—Negress, aged twenty years, has been an invalid for more than a year; has pain in back and hips, right and left iliac regions continuously, greatly aggravated at times; urination and defæcation painful. Digital and conjoined manipulation verify the presence of large tender masses on each side of the uterus, the right much larger than the left. Menstruation is painful; temperature 102½° Fahr.; pulse 130. Diagnosis, purulent peritonitis; origin of pus tubes gonorrhœal. Before operation, pulse, 160.

Abdominal section performed; the pus tube, abscess of right broad ligament, and ovary, roofed by the colon and membranous adhesions. In tearing through the adhesions to evacuate the pus and remove the diseased appendages, the peritoneal and muscular coats of the colon were lacerated, so intimate were the adhesions between the latter and the right tube. The peritoneum was deluged with a quart or more of the offensive pus; the odor of sulphuretted hydrogen was immense. The right tube was adherent and softened, the ovary macerated and disintegrated; the left tube and ovary being diseased, were also removed. Three irrigations of hot distilled water—about five gallons—were necessary to thoroughly cleanse the peritoneal cavity. The lacerated coats of intestines being thoroughly cleansed, were placed in apposition by sutures, and a patch or graft of omentum 2½ by 4 inches was placed over the laceration extending to sound tissue, and stitched by six interrupted fine silk sutures.—The graft should extend half an inch or more beyond the laceration; adhesions between graft and bowel form in about six to twelve hours. The abdominal wound was closed by four peritoneal and two superficial silk sutures, and a large and small drainage tube introduced, the larger into the abscess cavity of right side. Suction of the tubes was begun at once, and continued every minute or two until the peritoneal toilet was complete, then every two or four hours *pro re nata*. Two sheets of rubber dam, with a small hole in the centre of each, were fitted tightly over the tubes, each rubber having its own tube. The drainage tubes were dusted with iodoform, closed with aseptic gauze, and the latter placed around and over the mouth of the tube, and the four corners of the rubber dam pinned nicely over the gauze. The wound was also dusted with iodoform, dressed with antiseptic gauze, and the spica bandage applied. The bowel sloughed under the graft, and a fæcal fistula formed in bowel, and fæcal matter passed through the bowel into the abscess cavity, and was removed by drainage. This patient was in a critical condition before operation, and for ten days after. The small drainage tube was removed five days after the operation, and the large one ten days after. Patient made a good and complete recovery in three weeks.

The successful issue in these cases was due, no doubt, to the free purgation, to soap and hot water bath before the operation, the thorough evacuation and drainage of pus cavity and abdomen, removal of the offending masses, the most complete irrigation with hot distilled water, subsequent asepsis and rest, the assiduous watchfulness and attention of nurse and specialist, the conspicuous absence of meddlesome nurses and assistants, the withholding of chemical antiseptics from the abdomen, the avoidance of dirty antisepsis and asepsis so often seen in general hospitals, and the total prohibition of opiates. The best medium of success is in simple and plain asepsis.

Dr. Joseph Price, of Philadelphia, contributed a most valuable paper to the Southern Gynæcological Association, entitled "Pus in the Pelvis, and How to Deal with It," replete with surgical aphorisms, and which is quite pertinent to my subject. By pus in the pelvis, he meant pus that has its *fons et origo* in the pelvic organs or their investment.

The rarer causes of pus in the pelvis may be said to be:

(1) Carious bone,—as psoas abscess;

* Read before the Kentucky State Medical Society, May 14th, 1890.

(2) Traumatism,—sloughing, results of electricity, direct violence, etc.;

(3) Foreign bodies,—as extra-uterine bone, etc.

The general rule is, that pus in the pelvis is always the result of diseased conditions of the uterine appendages, whether it occurs as a result of a ruptured extra-uterine pregnancy, a suppurating ovarian or dermoid cyst, or salpingitis caused by gonorrhœa, parturition, dirty instruments, electricity, or what not. In general, then, when a surgeon finds pus in the pelvis, he will find its origin in the uterine appendages. He has seen pus discharging from the rectum, from the bladder, the umbilicus, and from the vagina. He has seen psoas abscess, perforating appendicitis, idiopathic peritonitis, and perityphlitis, and found the seat of trouble in the tubes and ovaries. In all his experience he has never seen pus in the pelvis independent of disease of the appendages. To make the statement more definite: He has seen, more than once, double pyosalpinx and double ovarian abscess contained within a fifth sac. Again, he has seen a single pus tube with four distinct pockets in it. Pus can burrow through the cellular tissue, and find vent as before stated.

How shall pus in the pelvis be treated? The general principles of surgery for the treatment of pus in any part of the body, apply with equal force to the pelvis, namely: When pus is present, evacuate it, and secondly: Remove the cause of the suppuration process. It is equally unsurgical and unscientific to allow it to remain in the pelvis as it would be to allow it to remain in the brain, in the mammary gland, or under the fascia in any part of the body. It is equally unsurgical to allow a suppurating tube or ovary to remain in the pelvis as it would be to allow a sequestrum of dead bone, or to allow a necrotic placenta or membranes to remain in the uterus.

These principles do not admit of evasion. All sorts and kinds of treatment have been tried without avail. Every man of experience knows the futility of counter-irritation, local depletions, or a general systemic treatment in the majority of cases. There are are only three methods of treatment common to physicians to-day, namely: Electricity; vaginal drainage; and abdominal section with removal of the diseased parts, through irrigation of the peritoneal cavity, and drainage.

The first of these methods need scarcely be mentioned in cases where pus is already present. Electricity has no place in the treatment of pus in the pelvis. Vaginal drainage is a crude, inefficient method, and is not as safe as some would have us believe. In abdominal section we have the quickest, easiest, most exact, and, therefore, safest mode of treatment for pus in the pelvis. A small incision, rapid enucleation of the offending tubes and ovaries, the breaking up and evacuating of the separate pus pockets, the separation of adhesions, the thorough washing out of the peritoneal cavity by copious irrigations of warm distilled water, the placing of a glass drainage tube in the most depending portion of the peritoneal cavity, and the careful closure of the abdominal incision, give the patient the quickest relief, permanent cure, and very often snatch her from an impending death. Moreover, here we attain the most ideal treatment, for at no other point of the body can we enucleate completely an abscess with its containing walls and pyogenic membrane. However, we should always bear in mind that the province of the surgeon is, first, to save life, then to relieve suffering, rather than to perform ideal operations. Many patients dying with pus in the pelvis need but a feather's weight to depress the beam. In such cases the indications are to evacuate the pus, wash out the cavity, and wait until a future time to remove the offending cause.

In old cases of peritonitis and salpingitis the cause of an intestinal obstruction is frequently due to intestinal adhesions and the formation of ligamentous bands. In the separation of old adhesions, the greatest care is needed not to tear the intestines in the separation of the cicatricle mass. The dissection should be done at the expense of the parietal, rather than the visceral layer of the peritoneum. To repair the wound tissue, the surgeon has either to suture the peritoneum, cover the wound with omentum and an omental graft, or both, and these measures prevent the frequent formation of adhesions. The parietal peritoneum being so loosely attached it will yield to a space of two inches in width by suturing. When this can be done, it should never be neglected, as surfaces denuded of peritoneum are liable to become permanently adherent to abdominal viscera. When the omentum is within reach it should be utilized in covering the defect. Numerous experiments on animals have demonstrated that when a piece of peritoneum three or four inches square is removed and not restored in some of the above ways, permanent adhesions form between the denuded tissue and the adjacent organ. It has also been proven experimentally and therapeutically that when such peritoneal defects cannot be removed by suturing or covering with omentum, these can be successfully treated by transplantation or peritoneal graft. Senn has removed from each side of the abdominal parietes, at corresponding points, pieces of peritoneum four inches square, and transplanted them to opposite points and sutured to the margins of the wound with catgut. All of these experiments proved successful. Omental grafts answered the same purpose, and in only one instance did the

graft fail to unite thoroughly, and here one of its margins projected into the median abdominal incision, which did not unite by primary union. Infection of this margin led to gangrene of the graft and septic peritonitis. In almost all post-mortem examinations of specimens from operations on the intestines observed by Dr. Senn, he found the omentum was adherent over a greater or less surface at the seat of suturing. He also found that perforations never occurred where this additional protection to the peritoneal cavity had formed. To anticipate Nature in protecting the peritoneal cavity in this manner, he transplanted an omental flap about one inch in width, and sufficiently long to reach around the bowel, where it was fastened on the mesenteric side by two catgut sutures. The flap was either taken from the margin of the omentum or from its middle, care being taken to take some portion supplied with a vessel of considerable size. Its base was left attached to the omentum, and all bleeding points were carefully tied with catgut ligatures. The two catgut stitches used for its fixation were passed twice through the flap, its base, and end, and the mesentery, in such a way that when tied, the direction of the suture corresponded to the course of the mesenteric vessel, so that after tying the vascular supply of the bowel would not be interfered with. When the flap was taken from the middle of the omentum, the lateral halves were united with one or two catgut sutures before closing the abdominal wound.

The advantages that are derived from covering a sutured intestinal wound by an omental flap are self-evident. The procedure is simply an imitation of Nature's process in protecting the peritoneal cavity against perforation, and in hastening the healing of the visceral wound. An adherent omentum secures rest for the part to which it has been attached. As the omental flap becomes firmly adherent before definitive healing of the visceral wound has taken place, it furnishes additional protection, and in the advent of a small perforation it guards against perforative peritonitis by mechanically preventing the entrance of pus into the peritoneal cavity. Should pus reach the omental flap after it has become firmly adherent, it is not very probable that perforation would take place through the two layers of peritoneum furnished by the adherent omental flap, and the subsequent healing of the perforation of the bowel would be most likely to take place.

Senn makes a distinction between adhesions of approximated serous surfaces, and definitive healing of approximated serous surfaces. Adhesions precede the process of definitive healing, but imply simply the presence of an adhesive cement substance between the serous surfaces, which mechanically agglutinates the parts, while definitive healing includes all the processes which take place during cicatrization.

In intestinal surgery this distinction has an important practical bearing, as perforation may take place as long as the serous surfaces are simply held together by adhesion, while such an occurrence is beyond the reach of all possibilities after the approximated surfaces have become united by living organized tissue. Adhesions between serous surfaces take place by the exudation of a plastic lymph, which acts the part of a cement material; while, on the other hand, the process of definitive healing is initiated by cell proliferation from the pre-existing endothelial and connective tissue cells, and the formation of a network of blood-vessels during cicatrization after ligature. In suturing an intestinal wound, or in making a circular enterorraphy, it has always heretofore been deemed necessary not to injure the peritoneum unnecessarily, for fear that such injuries would result deleteriously by interfering with the prompt union between the two satured surfaces.

Senn, by experiment, resorted to traumatic and chemical irritation of approximated serous surfaces, and found that the former was preferable to the latter. It is a fact that approximated normal serous surfaces do not result in the formation of adhesions. To secure this union, mechanical irritation of the approximated serous surfaces causes a circumscribed plastic peritonitis, and is followed within a few hours by a copious exudation of plastic lymph, which, like a cement substance, mechanically agglutinates coaptated serous surfaces. The same measures, by destroying the continuity of the non-vascular layer of peritoneum, bring at once in contact the vascular network of both sides of the peritoneum, and open up a direct route for the new vessels—an important element in the rapid healing of the visceral wound. After a few days the omental flaps were found firmly adherent and vascular around the whole circumference of the bowel, constituting a ring of living tissue outside the line of suturing. A great objection to the omental flap is this: It might be a cause of intestinal obstruction by making traction on the bowel, causing a flexion, or become a band of constriction for some loop of intestine. Chemical irritants, by destroying the endothelial layer of peritoneum, retard rather than favor early adhesions, and union of approximated serous surfaces.

Senn substituted omental grafts for transplanted omental flaps, and found them equally successful; they were from one and a half to two inches in width, and of sufficient length to completely encircle the bowel. The free ends were made to project a few lines beyond the

mesenteric attachment, and were fixed by two fine catgut sutures, each of which embraced the corresponding angles of the graft and the mesentery. The stitches were made in the direction of the mesenteric vessels, so that in tying, no vessel should be included in the suture. The grafts retained their vitality, and became firmly adherent in a few hours. Scarification of the graft hastens the process of adhesion, granulation, and vascularization. Senn advises the omental graft, as soon as cut, to be placed in 1:2,000 bichloride solution, at the temperature of the body, to insure an aseptic condition before transferring it to its new location, and also drying it by pressure between gauze or sponges wrung out of the same solution.

Dr. Joseph Price, of Philadelphia, renders the peritoneal cavity and contents aseptic by irrigation with hot distilled water, then cuts away the graft, scarifies it, and unites the free ends by sutures. The scarification should cause only slight oozing, as much hæmorrhage would prevent adhesion and union of the apposed serous surfaces. Omental grafts are indicated in repairing peritoneal defects of visceral injuries; in covering large stumps after ovariotomy or hysterectomy where the pedicle is treated by the intra-abdominal method; as well as after suturing large wounds of stomach or intestines; and after circular enterorraphy.

Senn has formulated the following aphorisms:

1. Definitive healing of the intestinal wound is only initiated after the formation of a network of new vessels in the product of tissue-proliferation from the approximated serous surfaces.
2. Under favorable circumstances, quite firm adhesions are found within the peritoneal surfaces in six to twelve hours, which effectually resist the pressure from within outward.
3. Scarification of the peritoneum at the seat of coäptation hastens the formation of adhesions and the definitive healing of the intestinal wound.
4. Omental grafts, from one to two inches in width, and sufficiently long so completely encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with blood-vessels in from eighteen to forty-eight hours.
5. Omental transplantation or omental grafting should be done in every circular resection or suturing of large wounds of the stomach or intestines, as the procedure favors healing of the visceral wound, and affords an additional protection against perforation.

STANFORD, Kentucky.

IT WAS DIPHTHERIA.

The outbreak of dangerous disease which prevailed in Otsego and Montmorency counties, Mich. last spring, has been investigated by the State Board of Health and conclusively proven to have been diphtheria. Dr. Vaughan has propagated the microbe and proven its identity with the Loëffler bacillus.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

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Editorial.

TWO NEW EXPECTORANTS.

The scarcity of ipecacuanha, with its resultant high price, has stimulated research in the direction of substitutes for this valuable drug, and apparently with most satisfactory results. Our Materia Medica is prolific in substances that are emetic and in others that are expectorant; but until recently there have been none known save ipecac that combined both with tonic properties.

Now, two substances, both of vegetable origin and closely related botanically, have been found in no small degree to meet the requirements, viz. Cocillaña, a South American product, and Naragemia, from the East Indies, both of which from time to time have obtained more or less extended consideration in these columns.

A noteworthy incident is, that these two drugs, studied independently by different investigators and in regions distant from one another, should have developed clinical histories that might be interchanged without in the least militating against the facts in either case. Cocillaña was first studied by one of the collaborators of this journal, Dr. Henry H. Rusby—without any knowledge of its relation to Naregamia—and later by Drs. David D. Stewart, R.W. Wilcox, and L. H. Mettler. At about the same time Professor David Hooper, at Ootacamund, India was investigating the composition and history of the Naregamia; and its clinical history has since been pretty carefully pursued by Dr. Stefan Schoengut, of Vienna. A comparison of Dr. Schoengut's results, with the reports upon Cocillaña, will reveal the striking similarity, surprising even when we consider the association of the plants in neighboring tribes of the same natural order.

In its habit of growth, Naregamia is not unlike ipecac. Like it an under-shrub, it grows in humid and rich situations, and thrives best when well shaded by larger plants; the latter, however, is considerably larger and more erect and branching, and is seldom less than a foot

high, while Naregamia rarely reaches that stature. Ipecac grows most commonly with a single stem which freely develops horizontal and very crooked and knotty branches. Naregamia on the other hand throws up several stems which rise obliquely and branch sparingly, the branches being more oblique, but drooping when they become long, and are generally shorter and less crooked than those of ipecac. These branches are mostly bare except for a cluster of alternate-crowded leaves at the apex. The new growth at this point is more or less pubescent; elsewhere the plant is smooth. The leaves are trifoliolate and borne on conspicuously winged petioles of nearly the same length. The leaflets are narrowed almost into a winged petiole at the base, and are about an inch long by ¼ of an inch in width. Its flowers are large for the size of the plant, funnel shaped and dull white.

The roots, with the short stems deprived of their leaves, are used, and it is in the thick bark that the medicinal properties reside. In the general appearance of the roots the resemblance to ipecac is still further borne out. They are creeping, tortuous and of an uneven surface, of a rich brown color, becoming greenish above, and possessed of a thick friable bark occupying about one-third of their diameter. Hooper describes the middle layer of this bark as containing thin walled cells and being loaded with a yellowish oil, while the inner one contains starch in "minute rounded granules, about equal to those of rice starch." The woody zone is yellower than that of Ipecac. In a mass, the drug has a slight and not agreeable odor which becomes strong and nauseating when the drug is powdered or agitated. The taste is almost equally disagreeable.

The only account of its composition that we have seen is that of the examination made by Prof. Hooper. He has extracted an abundant fixed oil, a wax, asparagin (?) and an alkaloid which he calls *Naregamine*, but no tannin. It is in the alkaloid that interest chiefly centers, as it is probably the active consituent. No chemical examination of Cocillaña has yet been made, but the preliminary tests applied at the time of its discovery indicate that this same alkaloid may exist in it. Mr. Hooper extracted *Naregamine* with dilute sulphuric acid, found it soluble in ether, and readily precipitated by tannin, potassio-mercuric iodide, phosphomolybdate of soda and iodine; deposited from an ethereal solution it was slightly colored, amorphous and brittle. It forms crystalline salts with sulphuric, nitric and hydrochloric acids, but gives no satisfactory color reactions. In the latter particulars it differs markedly from *emetine*. No studies of the medicinal properties of the constituents seem to have been made, but those of the drug as a whole are well known in domestic practice, as well as to physicians, in India, and through the the studies of Dr. Schoengut.

To the natives it is known by many names in the different provinces, but that of Goanese Ipecac is probably the most descriptive and convenient for English-speaking people. By the natives, the root has been used in 12- to 18-grain doses as an emetic, and a decoction of it, with the leaves included, in biliousness. By physicians of the same country, it has been used in the form of a tincture, about 16-percent. strength, in the same doses as ipecac, as an emetic and expectorant, with very satisfactory. Dr. Schoengut points out that in two trials, whose results have led to a recommendation of its use in dysentery, opium was combined, and the conclusions are therefore not reliable.

Dr. Schoengut's own investigations are the most instructive. He applied it in 24 cases; namely, one of dysentery, one of pleurisy, two of pneumonia, four of emphysema, five of bronchitis, five of heart-failure, and seven of tuberculosis of the lung in different stages. One to three grammes of the tincture were given per day, in doses of 0.30 to 0.60 gramme. Dr. Schoengut found the tincture to act as an emetic in doses of one to two grammes. No styptic or other action on the digestive organs was observed, and no benefit was derived in the treatment of dysentery. He says:

Further experiments in this direction were suspended, and the application of the remedy was confined to diseases of the air-passages. In such cases Naregamia has proved to be an excellent expectorant, and especially in cases where, with a limited amount of secretion in the bronchi, a disposition existed to extreme coughing, but where there was the presence of a tough and tenacious sputum which embarassed the elimination of this undesirable factor. In one case of bronchial catarrh, which from time to time betrayed asthmatic symptoms, Naregamia rendered great service.

This conclusion tallies with the statements made by Dr. Mettler as to the result of his studies of Cocillaña:

In the chronic forms of bronchitis, when there is an expectoration that is scanty, thick, and tenacious, the best results have been secured and positive cures obtained.

A similar opinion is thus expressed by Dr. David Stewart:

Cocillaña is serviceable in bronchial catarrh, especially the sub-acute and chronic forms, when accompanied by scanty or moderately profuse secretion, whether the cough be tight or loose. It seems to possess the power to render cough less frequent and difficult, and the bronchial secretion less viscid and more easily expectorated.

The same conclusion is thus expressed by Dr. Wilcox:

It is probable that in sub-acute and chronic dry bronchitis we find the larger field for the use of Cocillaña. The fact is that its expectorant effect is surer than that of either apomor-

phine or ipecacuanha in liquifying bronchial mucous.

Continuing with the report of Dr. Schoengut we quote:

In a number of cases of heart difficulty, comprising two of fatty degeneration of the heart in which catarrh of the air passages existed, Naregamia proved itself very serviceable. In the case of one patient with fatty heart, after several days' use of Naregamia the objective symptoms of catarrh disappeared, the rasping diminished materially, and although the quantity of the sputum was at first increased, its final amount was scarcely discoverable.

This secondary result was also observed by the above investigators in the case of Cocillaña. Dr. Mettler says:

At first Cocillaña acts as a stimulant expectorant, for although the cough and expectoration are both at first somewhat increased, as the action continues it becomes sedative, and by over-stimulation diminishes the expectoration.

Dr. Stewart and Dr. Wilcox both found the same tendency to a decrease after the primary increase of secretion. Dr. Schoengut also states that the tincture of Naregamia has a decidedly beneficial action in cases of pulmonary emphysema, and that it seemed to aid the expectoration in pneumonia during the period of resolution where the râles were prominent and frequent. In the case of patients affected with dyspnœa he found that the breathing became less difficult under the influence of Naregamia, but the effects seemed to be due to an increased freedom of expectoration and the consequent removal of accumulated secretions from the lungs, an opinion which agrees with the results of experiments on animals by Prof. von Basch, showing that it has no direct action on the respiratory centres.

No special influence on the circulation has been observed under the influence of Naregamia, only a short and irregular increase of pressure being noted after large doses reaching up to five grammes. This conclusion again agrees with that reached by Dr. Rusby in his preliminary investigation of the action of Cocillaña. Dr. Wilcox also says:

It cannot stimulate the respiratory centre as strychnine does. It is ordinarily safer in any stage of acute bronchitis than pilocarpine, because it does not depress the heart's action. The rhythm of the respiratory act is affected only so far as freer expectoration lowers the respiratory rate. * * * Even under the administration of full physiological doses the fullness of the pulse is not yet changed.

When we come to consider the effect upon the digestive tract, we note a difference in the action of the two remedies. A distinct laxative effect has been observed from the administration of Cocillaña, while Dr. Schoengut says Naregamia does not exert any perceptible effect upon the digestive organs.

A possible difference is also indicated by Dr. Schoengut's conclusion that no toxic properties reside in the remedy, while fatal cases are said to have followed the administration of large doses of Cocillaña. It is possible, however, that the administration of very large doses of Naregamia may yet be found to produce poisonous symptoms.

As regards emetic effect, all observations agree that the same kind of vomiting is induced, and in the same way, by the two drugs. At the same time full doses showed a disposition to produce slight dull headache in the case of Naregamia, just as has been recorded in the case of Cocillaña.

It is worthy of note that Dr. Schoengut found no special beneficial effect in the treatment of tuberculosis by Naregamia, his statement being: "The results could not be considered as commendatory;" while Cocillaña has been found to possess marked value in diminishing the night-sweats of phthisis.

The foregoing comparison, although entered into somewhat in detail, because an accurate knowledge of the comparative actions of these two drugs seems to be of sufficient importance, is yet only indicative of the general bearing of the articles from which we have drawn. The similarity noted will be greatly strengthened by comparison of the original articles.

THE RELIEF OF HOARSENESS.

Sajou considers hoarseness presents three forms, viz: 1. Depending on simple dryness of the larynx, and especially of the vocal cords, such as is observed in singers, excessive consumers of tobacco, and those accustomed to extended sojourns in smoke, dust, soot, etc. 2. Of inflammatory origin, arising, perhaps, from catarrhal conditions of the respiratory passages. 3. Where the voice is weakened or altered by reason of lack of muscular tone, or by genuine paresis.

The subjective symptoms of the first form are, a sensation of dryness and constriction which provokes hacking and characteristic "hems." During prolonged vocalization, especially when singing, the voice without being absolutely altered appears slightly harsh or husky, and the patient readily becomes fatigued, when a tickling sensation supervenes that ultimately induces coughing.

Here relief may be obtained by means of warm sprays, repeated every two hours, of such solutions as ammonium muriate, potassium chloride, etc. When any vocal exertion is to be made, the last spraying should be had three hours previously, while during the interval a compressed tablet of potassium or ammonium muriate may advantageously be allowed to dissolve in the mouth.

In inflammatory conditions of the throat, especially if there is a primary laryngitis, rest is imperatively demanded for the vocal organs.

At the same time attention should be given to regulation of digestion and intestinal functions, since it often happens, especially in females, that hoarseness is influenced by constipation. Any naso-pharyngeal trouble of course demands local treatment; turgescence of the erectile tissue of the turbinated bones may be relieved by the application of cocaine, followed by insufflation of some sedative powder, such as, for instance, acetate of morphine, grammes 0.03, and subcarbonate of bismuth and talc, each, grammes 0.25, made up into five powders, one of which constitutes a dose. Such insufflations may be repeated every four hours, care being taken that the powder reaches the walls of the pharynx. If there is a febrile condition, great relief may oftentimes be experienced by the internal administration hourly, in minim doses, of aconite tincture. But if the trouble is only an exacerbation of a chronic rhinitis, a spray of sodium bicarbonate will usually meet all indications. An attack of coryza of several days duration will necessitate more energetic treatment, such as application by the Galvano-cautery (on one side only) of the most prominent part of the turbinated bones.

The best treatment of the exacerbations of chronic pharyngitis, whether simple or glandular, is frequent painting with a five-per-cent. solution of silver nitrate; or, perhaps, light application of the Galvano-cautery, care being taken not to touch more than three or four of the inflamed and painful follicles at a sitting; the counter irritation thus induced often clears the voice in a remarkable manner, and so that one can speak comfortably on the evening of the same day. To act on the larynx itself, a spray of resorcin (one or two per cent. solution) often proves satisfactory. When the hoarseness, however, still proves resistant and stubborn, resort must be had to intra-laryngeal applications, such as the perchloride of iron (two per cent. solution).

It is sometimes a simple and easy matter to abort recent cases, if taken at their very outset, by laryngeal insufflations, every two or three hours, of the morphine-bismuth-talc powder, but it must not be forgotten, in the case of public singers, that morphine induces torpor of the vocal cords, and for this reason, a considerable interval should be allowed to elapse between the insufflation and the hour when special vocal exertion is to be made.

In hoarseness arising from muscular weakness or from paresis (most frequent in women), the voice may be normal in speaking, and altered only when singing, especially in attempts to strike the high notes. Here Faradization of larynx is apt to be most beneficial, with which may be associated the internal administration of potassium iodide, Fowler's solution, quinine, strychnine, etc.; wine of coca, too, is often a valuable adjuvant to this medication.

Book Notices.

FAMILIAR FORMS OF NERVOUS DISEASES. By M. Allen Starr, M. D., Ph. D. Cloth; 8vo; pp. 339. Illustrated. Published by Wm. Wood & Co., New York.

This is not a treatise on nervous diseases, but merely a clinical study of certain familiar types selected chiefly from the Nervous Clinic of the College of Physicians and Surgeons, New York.

Advances in neurology have of late been most rapid, and the object of this work appears to be to facilitate knowledge, thereby leading to more accurate study by affording information regarding the latest investigations. The facts which are chiefly emphasized are those that enable one to make more *accurate* diagnosis of the nature and location of lesions in the central nervous system as preliminary to successful medical and surgical treatment. Two chapters are of more than ordinary interest, written by Dr. Frederick Peterson and Dr. Walter Vought, respectively, and devoted to "Paralysis Agitans," and "Chorea."

DISEASES OF THE RECTUM AND ANUS. By Chas. B. Kelsey, A. B., M. D. Third edition. Cloth; 8vo; pp. 483. Illustrated. Published by Wm. Wood & Co., New York.

The fact that this well known standard work has entered upon a third edition speaks of itself of its value. The advance made during late years in rectal and intestinal surgery, have necessitated many changes, both in the text and illustrations. Notably the chapters on the "Treatment of Stricture, both Benign and Malignant," and on the "Formation and Closure of Artificial Anus," have been wholly rewritten, with the addition of no inconsiderable amount of new material.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. vii. No. 1. July 1890. Paper, 8vo. pp. 250. Published by Wm. Wood & Co., N. Y.

This number contains: "Stricture of the Rectum" by Chas. B. Kelsey, M. D.; "Influence of Heredity on Alcoholism" by Dr. Paul Pollier; "Rabies" by Louis Pasteur; "Colotomy" by Thos. Bayard, F. R.C. S.; "Massage of the Abdomen" by Dr. Rubens Hirschberg.

EXTRA-UTERINE PREGNANCY. Paper; 8vo; pp. 51. Published by the Obstetrical and Gynæcological Society of Baltimore, Md.

This embodies: "History," by Dr. T. A. Ashby; "Review and Discussion of," by Dr. H. A. Kelly.

TRAITMENT DES FRACTURES DE LA ROTULE. Par Dr. Lucas Championnière. Paper; 8vo.; pp. 8. Published by A. Coccoz, Paris.

Notes and News.

Brain Grafting.—Dr. Gilman Thompson, of New York, recently trephined two large dogs over the right occipital region; eight cubic centimetres of brain tissue were excised in one piece and exchanged; the piece from dog 1 was put into the opening in the brain of dog 2, and *vice versa*. On the third day both dogs were killed, and the transplanted pieces of brain tissue looked normal, and in each case were so adherent and firmly covered with fibrous exudation that it was impossible to pull them off with forceps without laceration. Total blindness of the eye opposite the lesion resulted in each dog, as was expected. In another case, 1.5 cubic centimetres of brain was removed from the occipital region of a cat and transferred to a corresponding position in the brain of a large dog, which was killed at the end of seven weeks, when the piece of transplanted cat's brain was found firmly adherent to the dog's brain, with the pia mater intact. Careful microscopical examination was made, and it was found that there was complete union, through organized connective tissue, of the contiguous portions of the two brains. There was descending secondary degeneration of the dog's brain on the side of the graft, as is usual in cases of simple excision of brain cortex; hence the cat's cortex had not succeeded in acting as a nutrient centre for the dog's brain.

An Aboriginal Method of Preventing Conception.—Mr. Carl Lumholtz, Member of the Royal Society of Sciences of Norway, undertook an exploring and collecting expedition to the northern parts of Australia a few years ago, and states, among other customs, the Australian aborigines have a curious surgical procedure, which is much resorted to for the purpose of preventing increase of population. The operation, which is performed with certain religious rites, consists in making an incision into the urethra with a flint knife; this incision is about an inch long, and is made almost to the scrotum; the wound surface is cauterized, and during the process of healing, pieces of wood are inserted to prevent closure. This artificial hypospadias is said to have the desired result, and the man has no more children. In a few tribes the males are operated on in childhood, only about 5 per cent. being spared. In other tribes the husband has to submit to the operation after becoming the father of one or two children. The motives that inspire this operation are, objections to providing sustenance for a number of children.

Goat Vaccine.—M. Aervieux, in a lengthy paper on goat vaccine, read before the Académie de Mèdecine, comes to the following conclusions: A goat inoculated with cow or human lymph furnishes lymph exactly similar to that of the cow; vaccination direct from the goat succeeds as well as from the cow, if the lymph is used quite fresh. Vaccination with goat lymph, after it has been used to vaccinate a human subject, gives the same results as cow lymph. In consequence of the discussion at the Académie of Mèdecine concerning goat lymph, MM. Bertin and Picq asked that their *pli cachete*, deposited at the Académie last January, should be opened. Its contents may be summed up as follows: Tuberculosis may be transmitted to the human subject by cow lymph; goats, which are refractory to tuberculosis, should be substituted for cows; the latter may be tuberculous, and yet be apparently in perfect health. MM. Bertin and Picq are continuing their experiments on the cow and the goat, to ascertain if tuberculosis can be transmitted either by virus or vaccine.—*British Medical Journal.*

Gonococci in Non-Specific Urethritis.—Professor Straus recently recorded an instance of gonococci detected in the urethral discharge from a youth aged sixteen, who had never had sexual relations with any woman, but who was addicted to masturbation. Two days after an indulgence in the habit to an unusual extent, severe pain during micturition ensued, followed by well-marked symptoms of blenorrhagia. The discharge contained gonococci absolutely similar to those found in the pus of a patient suffering from ordinary blenorrhagia. This would show that Neisser's gonococcus may exist as a simple saprophyte, and that by means of slight irritation it may invade the epithelium and determine characteristic catarrh. Several years ago also, Dr. E. C. Wendt reported the occurrence in the scrapings of healthy male urethras of microbes in all respects similar to true gonococci.

Mississippi Valley Medical Association.—The 17th annual session of this Association will be held at Louisville, Ky., Oct. 8th, 9th, and 10th, and the medical profession generally is invited to attend. The meeting promises to be of great social and scientific interest, as the profession of Louisville are doing their utmost to make it a success. Ladies accompanying physicians will be made especially welcome. Gentlemen wishing to read papers will please send titles as soon as possible to the Secretary, Drs. E. S. McKee, 57 W. 7th St., Cincinnati.

Ohio is said to contain over five thousand doctors, but only about one hundred were at the late meeting of the Ohio Medical Society. So too, **Georgia** has two thousand doctors, but only eighty were at the annual meeting of the State Medical Society.

The Type of Ideal Beauty.—

R.—Take the *hair* of a Hindu,
The *nose* of a Greek,
The *mouth* of the English,
The *complexion* of a German,
The *height* of a Norwegian,
The *feet* of a Chinese woman,
The *teeth* of an African,
The *arm* of a Belgian,
The *leg* of an Italian girl,
The *eye* of a Spaniard,
The *grace* of Frenchwoman,
And you will have an American beauty.
—*Max O'Rell.*

Chicago Polyclinic.—The following appointments have been made: Drs. G. Fütterer, F. C. Hotz and E. Fletcher Ingals, Professors of Internal Medicine, Ophthalmology and Laryngology, respectively. Drs. Chas. F. Stillman, P. S. Hayes and J. M. Patton, Associate Professors of Orthopædic Surgery, Electro-Therapeutics and Medicine, respectively.

Dr. J. H. Douglas, who attended General Grant during his last sickness, has been seized with paralysis, and lies helpless and poverty stricken at the Presbyterian Hospital, New York.

The Favorite Wife of the Shah has been operated upon by Vienna oculists for glaucoma. It is said the consulting Persian physicians who recommended the operation are confined to await the result.

Dr. J. Orne Green says that he has operated upon seventy-eight cases of meningitis from disease of the middle ear. Of these, sixty were cured, three not cured, seven died, two unknown, six unfinished.

Prof. R. Virchow will be three-score and ten years old on October 13th. It is proposed to make the event memorable by a banquet and celebration.

Dr. W. F. Westmoreland editor of the Atlanta Medical Journal, and a surgeon well and widely known, died at his home in Altanta, Ga., June 27th, aged 62 years.

Bellevue Hospital Medical College and the University Medical College, N. Y., beginning next year, will each require three courses of lectures for graduation. Good.

The New Management of the Atlanta Medical Journal says it will remove advertisements from among the reading pages. Would that all medical journals would do likewise.

The American Journal of Medical Sciences.—Dr. Edward P. Davis succeeds Dr. Hays as editor.

The Canadian Medical Association will hold its annual meeting in Toronto, September 9th, 10th, and 11th.

Therapeutic Brevities.

Menthol in Diseases of the Air-Passages.—It is advantageous to prescribe inhalations of Menthol for patients who take cold easily, so that they can employ the treatment at home whenever a coryza is coming on. A drachm or two of the crystals in a wide-mouth vial, with a metallic screw-cap, or a glass tube, is a convenient device. A pledget of cotton should be pressed into the vial to prevent the menthol from escaping and coming in contact with the nose, for it occasions smarting sensations wherever it touches the nostrils. If a large glass tube is used, both ends should be plugged with cotton wool. As Menthol does not melt at a temperature below 98° F., it can be carried in the pocket for ready and frequent use. When not in use, however, it should be tightly corked to prevent evaporation. In prescribing it for patients to use in atomizers, it is best to use a solution not stronger than five or ten per cent., in oil. Albolen is preferable to fluid vaselin, for the latter alone often proves irritating to the mucous membrane.

In chronic hypertrophic rhinitis, with a foul-smelling discharge, Menthol is sufficiently antiseptic and alterative to lessen the amount of discharge and to banish the odor. The peppermint aroma is usually agreeable, and more especially so when it supplants the stench of decomposition. In atrophic catarrh the stimulating properties of the drug, combined with the emollient and protective qualities of albolen, afford a means of speedy improvement.

Pruritus yields to nothing, excepting cocaine, more readily than Menthol, and in connection with this, if it will not be too severe a tax upon our sense of continuity to pass from the upper air-passages to the seat of pruritus ani, I will remark, parenthetically, that Menthol is vastly superior to cocaine in its effects here. I have seen the most exquisitely torturing itching and burning of the anus relieved in a few minutes by a twenty-per-cent. solution of this simple drug, after other ordinary and extraordinary remedies had utterly failed.

In laryngitis not dependent on a rheumatic condition Menthol proves valuable. Even in rheumatic laryngitis it is an efficient adjunct to salicylate of sodium, iodide of potassium, etc. In simple acute laryngitis, if used in the early stage, it will relieve as it does in coryza; but the spray is the most effectual form in which to use it. When the soreness of the larynx and trachea, and hoarseness appear, a few inhalations of the spray often nip the attack in the bud. It relieves the hoarseness, and imparts a smooth, reed-like *timbre* to the voice. In advanced cases several inhalations of the spray should be used in the course of a day, and a continuous effect is often advantageous. This can be secured by keeping a saucer heated in the patient's room, and occasionally dropping a few of the crystals on it during the day and night. They melt readily at a low temperature, and fill the atmosphere with their penetrating fumes.

In whooping-cough I have directed patients to inhale constantly from a cloth saturated with a solution of Menthol, and placed beneath the chin. Besides this I have sprayed the nose and throat daily, taking care to pro-

ject the spray into the throat just at the beginning of inhalation. The paroxysms of cough were lessened in intensity and frequency, and the course of the disease appeared to be shortened. Bronchitis does better with this treatment than with other topical applications or with internal medication alone. The spray should be inhaled after a forced expiration, and retained as long as possible in the bronchial tubes before the next inhalation. This brings the fine smoke-like vapor in contact with with the diseased surface. It is best to have patients exhale it through the nose, and it can readily be seen pouring out of the nostrils for several seconds, after a forced retention, showing that the respiratory tract is thoroughly medicated. The effect is distinctly felt deep in the chest.

In catarrhal conditions of the Eustachian tube and middle ear I have employed Menthol on account of its effect in relieving turgescence and stenosis in the nasal passages. I use in an inhaler as iodine crystals are ordinarily used, substituting cotton for sponges. If a stronger impression is desired I use the liquid albolen solution. Simply throwing the spray against the Eustachian orifices with the atomizer, produces a thorough impression on the tube and tympanum.

Suppurative inflammation of the middle ear readily yields to the Menthol treatment. Long-standing cases rapidly healed after the use of a twenty-per cent. solution. I have just seen several cases of this kind in which the purulent discharge ceased after a few such applications. Furunculosis of the ear has been in my hands more amenable to this than to any other remedy. A pledget of cotton, moistened with a twenty-per-cent. solution, should be so placed that it will remain in contact with the center of the furuncle. A warm or burning sensation follows, but soon gives place to one of coolness. The pain is relieved, the bacteria destroyed, and the swelling and discharge checked.—Dr. S. S. Bishop in *Medical News*, July 26th, 1890.

Gold as a Therapeutic Agent.—The use of Gold as a medicinal agent is of considerable antiquity, dating back to a very early period, and like mercury, whose action it much resembles, it was accounted of great value by the alchemists of old. Culpepper, in his "Physician," says: "Gold is temperate in gravity. It wonderfully strengthens the heart and vital spirits. In cordials it resists melancholy, faintings, and swoonings; also fevers and falling sickness, and all such like infirmities, incident either to the vital or animal spirit." Down to the very early part of this century, it was included in most of the Pharmacopœias of Europe, but like musk and other expensive remedies once frequently employed in medical practice, the internal administration of the precious metal has almost entirely dropped out of use.

The physiological action of Gold may easily be tested, and it is also stated to have diaphoretic properties. It was frequently used by medical men fifty years ago in the treatment of syphilis, many of whom believed it superior to mercury in severe cases. One of the oldest preparations was known as *crocus solis*, and prepared in several ways. That of Germany was directed to be made by first making an amalgam, composed of one part of Gold and six parts of mercury, and triturating it with twice its weight of sulphur. It was then heated in a crucible till the mercury and sulphur became dissipated, and the Gold remained in the form of a brown powder. Another method of preparation, also, was by precipitation, as follows: Divided Gold, q. s.; acid nitro-hydrochlor., q. s. To dissolve the metal, dilute the acid solution with twelve parts of water, then add a solution of potash to excess. Wash and dry the precipitate thrown down.

The *stannate* of Gold, well known as the "purple of Cassius," was formerly prescribed internally, to be taken in progressive doses of $\frac{1}{20}$ to 1 grain, from $\frac{1}{2}$ to 1 grain being also recommended to be rubbed over the tongue. The metal itself was used in the form known as *divided* Gold, made by forming an amalgam of mercury and Gold leaf, in parts of one to six, the mercury being taken up by hot nitric acid, then dried, and the residuum pulverized.

Divided Gold was administered in doses of $\frac{1}{2}$ to 5 grains daily, by rubbing on the gums. It was used also to make the *syrup* of Gold, a preparation recommended in lotions for application to syphilitic ulcers. The formula is given as follows: Divided Gold, grammes 1.55; simple or gum syrup, grammes 31.00; mix intimately.

The *chloride* of Gold was once frequently ordered in medicine, and usually given in doses of $\frac{1}{10}$ to a $\frac{1}{4}$ of a grain daily, and was also used in making pills. Combined with starch, it formed the powder of chloride of Gold. The *tinctura auri* was a somewhat expensive preparation, and made in the following manner: Pure Gold, grammes 3.80; acid nitro-hydrochloric, grammes 31.00. Dissolve, and add ol. rosmar., grammes 62.00. Set aside until the color of the acid disappears, then add: Rectified spirit, grammes 235.00. The dose of this tincture is from 5 to 10 drops.

Another form was aurate of ammonia, known as *Aurum fulminaris*. It was made by precipitating divided Gold from a solution of nitro-hydrochloric acid with ammonia, and was prescribed as a diaphoretic in doses of from 3 to 6 grains. It was used in the preparation of *balsam* of Gold, made by dissolving 1 part of aurate of ammonia in 4 parts of oil of juniper. A popular remedy largely used in Continental countries was known as General La Mott's drops, and consisted of aurate of ammonia dissolved in nitric acid, and diluted with rectified spirit. It was regarded as a sovereign remedy in more senses than one.

The *bromide* of Gold has been recently prescribed by several medical men in cases of epilepsy with success. It is given in doses of $\frac{1}{60}$ to $\frac{1}{10}$ of a grain, so it is quite probable we may see Gold again come into use in medicine, and its preparations once more on the shelves of the pharmacy.—C. J. S. Thompson, in *Pharm. Journal and Transactions*, July 5th, 1890.

Resorcin in Epithelioma of the Face.—Dr. Mario Luciani reports two cases of "cutaneous epithelioma" in which he claims to have effected a complete cure by the application of an ointment containing Resorcin. In one case the patient, a healthy woman, aged 55, had had a small nodula on the forehead for four years. It then began to grow larger and become ulcerated, the ulcer having hard borders and a

foul base, being very painful. As the disease was spreading and the patient would not hear to anything in the nature of a surgical operation, Dr. Luciani directed that an ointment composed of thirty grammes of Resorcin to one hundred grammes of vaselin should be applied once a day to the ulcerated surface after previous cleansing with a two per cent. watery solution of borax. In a month the ulcer assumed a healthy appearance, its edges softened, and the burning and shooting pain formerly complained of ceased. After three months' further continuance of the treatment the ulcer completely healed. The second patient was a woman, aged 60, who for about a year had noticed a small lump on her upper lip near the corner of the mouth on the right side. Ulceration took place, and the course of events was similar to that in the previous case. The same treatment was followed by an equally happy result. While Dr. Luciani is to be congratulated on his success, some doubt may, perhaps, in the the absence of microscopic or other conclusive evidence, be expressed as to the true nature of the disease with which he had to deal.—*Riforma Medica*, July 3d, 1890.

Uncertainty of Analgesin.—Dr. E. Falk, of Berlin, writing of this drug says: Among the ascertained consequences, partly disagreeable, partly even dangerous, are the following: 1, Vomiting; 2, pressure or burning pain in the stomach; 3, bleeding (after prolonged use); 4, discoloration of the teeth; 5, singing in the ears; 6, amaurosis; 7, epilepsy; 8 (in 10 per cent. of cases) eruption of the skin (exanthem) accompanied not infrequently by most painful itching, irritation, and fainting; 9, tumors; 10, violent sneezing and watering of the eyes. By seven authors quoted, the absolutely contradictory effect of Analgesin is determined to obtain, the temperature of the body, instead of falling, rising rapidly, accompanied by shivering, and to some extent by dangerous symptoms. Subcutaneous injection of Analgesin is always attended by great pain, sometimes followed by violent inflammation, formation of abscess, and even gangrene.—*The Sanitarian.*

Quebracho in Crises of Dyspnœa.—Marigliano highly recommends (Wiener Medigenische Presse) Quebracho in the crises of dyspnœa, and uses, according to circumstances, either the alcoholic extract or the active principle (Quebrachine), according to the following formulæ:

℞ Ext. Quebracho, alcoholic, grammes 10.00.
Lemon juice, grammes 20.00.
Distilled water, grammes 178.00.
Mix. Sig.—Teaspoonful at the onset of the crisis.

℞ Quebrachine, grammes 0.50.
Liquorice powder, sufficient.
Make into a pill mass; divide into ten pills. Dose, four or five pills daily.

Hypodermic Injections of Chloranodyne in Diarrhœa.—Dr. Cimbali, of Rome, in the Riforma Medica, remarks that certain infectious maladies (as, for example, enteric fever, pneumonia, malaria, etc.), an uncontrollable kind of diarrhœa sometimes occurs, which, besides being a great annoyance to the patient, always aggravates the condition. It is impossible to moderate either by astringents or the strongest excitants. In many cases, however, he has successfully employed hypodermic injections of Chloranodyne. Fifteen minims are injected, and if this is insufficient it can be repeated five or six hours later, unless it is one of those diarrhœas which is the immediate forerunner of the death agony. As a rule, however, after the first injection the number of stools rapidly diminishes, and the patient experiences great relief. Two or three injections during the twenty-four hours suffice to check, or at least to moderate them.—*Am. Pharmacist.*

Lithia Potash Water.—There can be no doubt whatever that the salts of Lithia exert a powerful influence on the rheumatic and gouty habits, as well as in certain renal diseases in which an excess of uric acid is found. The Lithia is also most beneficial where an abnormal formation of sodium urate takes place. The natural Lithia waters contain too small and variable a quantity of the salt. Lately has been produced an artificial Lithia potash water, or "Garrod Spa," as it is called, the formula of which is as follows:

Lithium bicarbonate, grammes 0.778.
Magnesium bicarbonate, grammes 0.648.
Potassium bicarbonate, grammes 1.037.
Sodium chloride, grammes 0.648.
Carbonated water, c. c. 472.800.

—*St. Louis Medical and Surgical Journal.*

The Prevention of Cocaine Poisoning.—Every now and then alarming symptoms, especially in neurotic patients, follow the application of Cocaine, particularly in the treatment of disease of the nose and throat. Dr. I. Gluck, of Omaha, in the New York Medical Record, states that the risk of such undesired consequence is very much diminished if the solution of Cocaine be prepared with *phenol.* He directs two drops of phenol to be dissolved by agitation in a drachm of distilled water, and ten grains of hydrochlorate of Cocaine added; this mixture can be kept indefinitely without any impairment of its qualities, and can be diluted when required if necessary. Dr. Gluck claims that this addition of phenol not only prevents toxic effects, but increases the anæsthetic action.

Chaulmoogra Oil in Leprosy.—In the Druggists' Circular, Dr. Geo. H. Fox, of New York, reports an apparent cure of leprosy by the use of Chaulmoogra Oil. The effect of the oil in lessening the symptoms of the disease, he has noted in several cases which had been under his care, and he regards it as beyond all question, the most efficacious remedy which has yet been employed.

Pyoctanin, or Methyl Violet, in Surgical Practice.—Experience in the surgical policlinic of Dr. Kölliker, of Strasburg, with the use of Pyoctanin has given entirely negative or unfavorable results. In purulent processes and granulating wounds little improvement was obtained, while the intense staining of the parts is very disagreeable to both patient and operator.—*Medical Record.*

Medical Progress.

LOCAL TREATMENT OF CHANCRE.—Dr. G. Frank Lydston (New Orleans Medical and Surgical Journal) enunciates the following:

First, avoid caustics. Second, avoid grease. Third, keep the part dry, as a rule, and perfectly clean.

The only exceptions to the rule regarding caustics are mixed sores, with a minimum of induration, and exulcerated sores, which become sluggish and refuse to heal after induration has nearly or quite disappeared. In the first instance pure carbolic followed by fuming nitric acid is admissible, but the Galvanocautery, preceded by cocaine, is better.

The exception to the second principle is the application of iodoform ointment to sluggish or painful sores. The following formulæ will be found to be excellent, the odor of the iodoform being completely disguised. I attribute this property to the menthol, which, as far as I am aware, has not been elsewhere recommended for this purpose. Oil of mirbane may be used in lieu of menthol, but is more irritating and less effective. Where there is considerable pain, cocaine and extract of belladona may be added.

℞ Mentholis, grammes 0.30.
Iodoformi, grammes 1.50.
Cetacei alb., grammes 7.75.
Cerati, q. s. ad., grammes 31.00.

M. Sig.—Apply on lint.

℞ Ol. mirbane, c. c. 0.25.
Bals. Peru, grammes 7.75.
Iodoformi, grammes 7.75.
Vaselini, q. s. ad. grammes 31.00.

The old time black and yellow washes are not objectionable for cleansing purposes, provided the part be well dried thereafter and packed with some absorbent powder. I prefer, however, a solution of the bichloride 1:500. A plan recommended for this application is to wash the part with a weak solution of common salt. Calomel is now sprinkled upon the part, and a small amount of nascent and active bichloride is thus formed. I have used this plan for condylomata quite successfully. The best absorbent is the powdered oleate of zinc—not Merck's, which is abominable, but Parke, Davis & Co.'s, which is really excellent—a useful combination is the following:

℞ Bismuthi subnit, grammes 7.75.
Ac. salicyl, grammes 0.35.
Zinci oleat, q. s. ad. grammes 62.00.

M.

Simple calomel is useful, but not so good as the above. Turpeth mineral is a very desirable method of applying a mercurial in a dry form. Oxide of zinc and lycopodium are also very good, used in equal parts. The part may be kept dry by absorbent cotton. Cumbersome dressings must be avoided, especially such as require for their retention constriction of the penis.

EFFECT OF DRUGS ON INTESTINAL ABSORPTION.—Dr. S. Leubuscher, in Brit. Med. Journal, says: According to recent experiments, intestinal absorption is no longer looked upon as a simple physical process, but as a function of the living epithelial cell of the intestinal wall. Thence everything which influenced the living activity of the cell must also exert an influence on absorption. These effects may be due either to an influence on the protoplasm of the cell, or to disturbances of the circulation, or to an influence on the nervous system.

As to the first-mentioned point, experiments were conducted in such a way that a strong solution of an inorganic acid was injected into a ligatured intestinal coil in a living animal, and after sufficient cleaning, a certain quantity of a solution of grape sugar was poured into the same coil; the absorption of the grape sugar was constantly diminished.

With regard to the second, the arteries leading to a ligatured coil in the mesentery were ligatured in one case, and in another the veins were ligatured. On one occasion anæmia, and in the other instance hyperæmia, were thus induced. In both cases (particularly the last form) the absorption of grape-sugar, and that of a solution of iodide of potassium, was considerably interfered with. As to the third point, the experiments are not yet concluded.

After these preliminary experiments it seems probable that a number of drugs will also exert an influence on intestinal absorption. To test the intensity of absorption, grape sugar and solutions of iodide of potassium were used; and drugs, quinine, opium, morphine, alcohol, glycerin, besides weak solutions of common salt, and water of the Muhlbrunn of Carlsbad, were used. Two coils of the same length were ligatured in dogs and cats. Into one of these an aqueous solution of iodide of potassium or grape sugar was injected, and into the other the same substance with the addition of a drug. There was a difference in the intensity of absorption, pointing to the influence of the drug. The experiments were continued on dogs with intestinal fistulæ produced by the Thiry-Pela method.

It is evident from these experiments that quinine, opium and morphine diminished absorption even in feeble concentrations. Morphine had the same effect even when it did not come into direct contact with the mucous membrane, but was only applied subcutaneously. Alcohol, in slight concentrations (from ½ to 2 per cent.), increased the intensity of absorption; in large quantities it diminished it more and more. Glycerin was indifferent; a slight addition of common salt increased absorption. Muhlbrunn of Carlsbad had no effect. As to the iodide of potassium, the experiments carried out on man showed that the dimunition through the saliva in alcoholic solutions of a strong concentration was impaired. When men drank iodide of potassium in aqueous alcoholic solution, or in glycerin solution, or in Muhlbrunn of Carlsbad, the quantity of iodine secreted through the urine was on the average increased. Milk diminished this secretion.

WHEN IS WOMAN MOST LIABLE TO CONCEIVE.—Dr. Schneider, of Oppeln, contributes to "Memorabilien" a paper on the most favorable time for conception. He considers the general view—that just before or after menstruation woman is most liable to conceive—contrary to the fact that the genitals are so strongly affected by menstruation that they

cannot possibly be equally favorable to conception before and after the same. It has also been proved by Dr. A. Gusserow that the ovum, which has just left the ovary, is destroyed during menstruation, so that conception immediately afterwards is impossible. Menstruation is, according to the author, due to the sterile ovum acting as an irritant foreign body on the inner surface of the uterus, or to the relaxation of the uterus, which takes place in consequence of the relieved congestion of the genitals, and results in the loss of the decidua menstrualis with the necessary hæmorrhage. This bleeding cannot possibly take place before the ovum has arrived in the uterus, as the fructified ovum could not otherwise adhere. It has, on the other hand, been proved, that conception has taken place a greater or less period before menstruation, and the author mentions, as continually recurring evidence, the fact that orthodox Jews are forbidden by the Mosaic law to indulge in coitus for a fortnight after the beginning of menstruation, and have nevertheless generally a very large progeny. The author concludes from the foregoing as follows: The premonitory symptoms of menstruation appear not more than four days in advance, and denote the bursting of the ovarian follicle, after which the ovum begins its migration through the Fallopian tube; if it is not fructified soon after its arrival in the uterus, menstruation appears in about twenty-four hours. It has also been proved by experiments that spermatozoa retain their vitality within the genitals for eight days, so that the liability to conceive lasts twelve days. It is, however, probable that this liability is of shorter duration under abnormal circumstances; where, for instance, menstruation appears every fortnight, it is likely that the liberation of the ovum takes place nearer this period than the above mentioned four days, and the vitality of the spermatozoa will likewise not be so lasting. Other influences may limit the liability to conceive considerably, but the extreme period is certainly twelve days. The Mosaic law regulating the sexual intercourse of the Jews has, apart from its influence on conception, another sound physiological reason. After menstruation the uterus remains somewhat weak, and requires rest to recover its strength, and the exertion incidental to coitus can hardly be made without injury to the organ. This is probably the reason why Jewish women suffer less from diseases of the sexual organs than other women, and, no doubt, men who observe the same law remain stronger too.—*Hospital Gazette*, May 3d, 1890.

This is contrary to our experience, which is that Hebrew women are almost universally sufferers from uterine and vaginal maladies; and we have supposed this to be due to the extreme salacity of the males of this race.—Ed.]

The Outlook as Regards Cholera.—It is nearly a quarter of a century since a serious irruption of Asiatic cholera occurred in the United States, and the epidemic of 1886 was kept well under control in comparison with the outbreaks of several preceding years. There can be little doubt that we have seen the worst of cholera in this country. In the first place, notwithstanding the number of our ports of entry, it is not every European incursion of the disease that crosses the Atlantic; in the next place, cholera has of late years been reduced almost to complete subjection wherever the measures inculcated by the sanitary science of the present day have been properly resorted to; finally, our public sanitary service is now more efficient than ever before, and those who are in charge of its administration are better disciplined and provided with more adequate powers and resources.

It has not yet been shown conclusively that the outbreak in Spain is one of true Asiatic cholera. It may be a choleroid endemic. If the disease is really Asiatic cholera, however, we see no reason to attach much importance to the question of whether it is due to a fresh importation from India or to a sudden display of activity on the part of stray germs left over from a previous visitation—except, indeed, that, if the former supposition is correct, there is reason to fear that the disease has been, or soon may be, carried to other parts of Europe by a more direct route than by way of Spain, and by one that is not yet known. The Spanish authorities do not seem to have misdirected their energies to the mistaken policy of trying to make themselves and the rest of the world believe that there is no danger of a diffusion of the disease; they appear, on the contrary, to have a wholesome appreciation of the general principle that it is better to treat an epidemic as if it were formidable than to follow the do-nothing course and rest on the fond hope that matters will take care of themselves. They are enforcing measures of isolation while the disease is yet confined to a small area, and neighboring countries may be trusted to take like precautions.

All these considerations are, of course, no argument against the need of vigilance even at this distance from the seat of the outbreak. The disease may make its way into other European countries, and it may cross the Atlantic. Nothing is to be gained by assuming that it will not do so. On the other hand, excessive apprehension has a most depressing effect on the timid, and it would show inexcusable neglect of their welfare and peace of mind not to give due prominence to the probability of our escaping the cholera this summer.—*N. Y. Med. Journal.*

Ovarian Herniæ.—Ovarian herniæ are amongst the most neglected, although clinically they should be included amongst the most important, of the troubles that come before us in gynæcological practice. In the great majority of cases they occur downward into Douglas' space, and in such instances the left ovary is that most frequently displaced. The next in point of frequency of these herniæ are those occurring in the inguinal regions where they are either found above Poupart's ligament, or, as is more commonly the case, follow the course of the canal of Nuck downwards and forwards, and so present in the labia where they may be readily recognized. In the former or directly downward variety of displacement, the ovary may be discovered on vaginal examination in the recto-vaginal fossa, as a small, oval-shaped, firm, elastic and highly sensitive tumor, bulging forward into the post cervical

cul-de-sac. In the larger number of cases of ovarian herniæ, especially those in Douglas' space, result from the *vis a tergo* of abdominal or uterine tumors, or from the tension on the appendages occasioned by displacements of the uterus.

Diagnosis.—Until recently these herniæ when inguinal were very generally compounded with enlarged glands; when labial with other tumors in that situation; and when downwards with pelvic abscess, and hæmatocele. Or, as often happens, they are mistaken for the retroflexed fundus uteri, and the patient suffering from an ovarian prolapse is vainly treated for a non-existent retroflexion or retroversion of the uterus. There can now be no excuse for such errors. The sudden occurrence of the tumor, its physical character, the peculiar dull sickening pain, and the extreme tenderness and nausea manifest on examination, are sufficient to enable a correct diagnosis to be made by any competent gynæcologist.

Treatment.—Where ovarian hernia takes place through either of the abdominal rings or downwards into Douglas' space, it may in some instances be reduced, as any other hernia similarly situated. In the majority of cases, however, such herniæ are irreducible when discovered, and must either be supported—in the former case by supplying a hollow truss, whilst in the latter case the prolapsed ovary must be replaced if possible and kept in position by a peculiar form of pessary specially devised for the purpose; or failing in this, if the symptoms be urgent the ovary must be in some cases be removed.—*Abstract from paper by Thos. More Madden, read before the British Medical Association, at Birmingham, in July.*

The Use of Water at Meals.—Opinions differ as to the effect of the free ingestion of water at meal times, but the view most generally received is that it probably dilutes the gastric juice and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed. Water, drank freely before meals, has, however, another beneficial result—it washes away the mucous which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food and convert it into soluble compounds. The accumulation of mucous is especially well marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered by this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The tubular contracted stomach, with its puckered mucous lining and viscid contents, a normal condition in the morning before breakfast, is not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucous, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass through the "tubular" stomach, and even if food be present they only mix with it to a slight extent. According to Dr. Leuf, who has made this subject a special study, cold water should be given to persons who have insufficient vitality to react, and hot water to others. In chronic gastric catarrh it is extremely beneficial to drink warm or hot water before meals, and salt is said in most cases to add to the good effect produced.—*British Med. Journal.*

Inflammation of Cowper's Duct.—This disease of the vulva is of considerable importance. It is a painful affection, and its causation is not absolutely established. Dr. Matthews Duncan holds that abscess of Cowper's gland, and cystic dilatation of its duct, are well defined diseases; suppuration of the duct, and cystic degeneration of the gland, being, on the other hand, rare. Dr. Pollacsek, of Buda-Pesth, has published some researches on the subject in the Centralblatt für Gynäcologie, No. 22, 1890. He believes that inflammation of the gland is, as a rule, the result of injury, and is not of gonorrhœal origin excepting when the duct is involved or when the duct alone is inflamed. Dr. Pollacsek distinguishes four varieties of "Bartholinitis." The first is simple catarrh of the duct; suppuration may occur, but the inflammation is not specific, and no gonococci are to be found. In gonorrhœal catarrh of the duct, the second variety, the gland is rarely involved, and in exceptional cases but slightly swollen; suppuration is rare, but this variety—frequent in prostitutes—is very chronic and intractable. The third variety is idiopathic suppuration of the gland; it is very acute, and may occur in children; the *staphylococcus pyogenes aureus* is found in the pus. Lastly comes gonorrhœa of the duct with abscess of the gland. This form is the result of mixed infection from the gonococcus and the staphylococcus. It is significant that the duct often remains diseased for months, or even weeks, after the opening of the abscess in the gland. The abscess cavity is in many cases difficult to close, and its duct may ultimately become a fistulous tract. Some authorities believe that cysts of the duct represent degeneration of that canal through one of the above forms of inflammation.—*British Med. Journal.*

Menthol in the Vomiting of Pregnancy.—Hyperemesis in pregnancy is a grave complication. Within the last ten years Professor Horwitz and Dr. Graily Hewitt, have written upon the subject. Dr. Copeman first published in the Journal of May 29th 1875, the famous case which he treated after the method to which his name has since been applied. "Copeman's treatment" signifies the relief of sickness by dilatation of the os and cervix uteri. The obstetrician's fingers are usually sufficient for the purpose. The treatment has

been widely adopted; between 1875 and 1880 several experienced obstetricians contributed papers to our columns on successful cases, and for full information we refer the reader to the statistical tables published by Dr. Hewitt in the Transactions of the Obstetrical Society for 1884. Of course Copeman's treatment does not suit every case. Dr. Gottschalk recently described a case in the Berliner Klin. Wochenschrift, where, in a woman, aged 26, who had been pregnant three times, uncontrollable vomiting set in during the second month of her fourth pregnancy. Neither cocaine nor Copeman's treatment availed, and the sickness continued until premature labor was induced. The patient became pregnant for the fifth time, and the vomiting returned, hæmatemesis taking place. A draught consisting of Menthol one part, rectified spirits 20 parts, and distilled water 150 parts, was prescribed by Dr. Gottschalk, and a tablespoonful given every hour. The vomiting ceased after the third dose, and pregnancy proceeded to term without any further complication. A second case was successfully treated with Menthol.—*British Med. Journal*, June, 14th, '90.

Hydramnion in Twin Pregnancy.—Dr. Kruse, of Greifswald, described in the Deutsche Med. Wochenscrift (No. 5, 1890) a case where this interesting condition occurred in single-arm twin pregnancy. The patient was aged 41, and had borne seven children. After a fall, the abdomen suddenly increased in size, and dyspnœa set in. When admitted into hospital, twin pregnancy at the sixth month, with hydramnion of one fœtus, was diagnosed. An elastic catheter was introduced, in order to induce labor, but without effect. The membranes were ruptured, and the twins were then rapidly expelled. Seven quarts of liquor amnii came away. The twins and membranes were carefully examined. None of the conditions alleged by some authorities to be the cause of hydramnion in single-ovum twin pregnancy were present. One fœtus was smaller than its brother, but there was no anæmia of the one with corresponding plethora of the other. The placental circulation was perfect throughout the placenta and cords. The bladder of the bigger fœtus was greatly distended with urine, the ureters tortuous, and the renal pelves dilated. This condition was attributed by Dr. Kruse to a mechanical impediment to the escape of urine. That impediment was, in his opinion, the pressure of the amniotic fluid; for there was no obstruction of any kind in the genito-urinary tract itself. The hydramnion was thus not caused by polyuria in the fœtus. The smaller size of one fœtus Dr. Kruse attributed to the fact that it received blood from a less extensive surface of placenta than in the case of its brother. In short, the cause of the hydramnion could not be determined.

Ex-ophthalmic Goitre in Pregnancy.—The relation of this affection to sexual life in woman has long been recognized. Dr. Häberlin, of Zurich, has recently described an interesting case which was under his care last spring. A woman, aged 36, who had borne six children, became pregnant in August, 1889. Strange nervous symptoms then developed, such as emaciation, shakiness of the hands, severe palpitations, and a feeling of constriction around the throat. She spent the summer at the seaside; the above symptoms almost disappeared, but exophthalmos and swelling of the thyroid body occurred, with troublesome vomiting. At the eighth month, death of the fœtus and partial detachment of the placenta took place. Much hæmorrhage was the result, but the fœtus and placenta were safely extracted on March 9th, 1890. The fœtus was putrid, the placenta contained a few white infarcts and abundant extravasations. After delivery, the exophthalmos diminished, and on March 14th the eyelids were, for the first time, completely closed during sleep. On April 15th the patient was in a very favorable condition, the palpitations were but trifling, and the goitre had almost disappeared. Dr. Häberlin, who published the above case in the Centralblatt für Gynäkologie, considered that Graves' disease here set in as the result of conception, and was the direct cause of the death of the fœtus and the premature labor. Dr. Benicke has already described an almost precisely similar case where detachment of the placenta, normally attached to the uterus, occurring in the thirty-sixth week of pregnancy. — *British Medical Journal*, July 12th, 1890.

Digestive Disorders in Children.—Moncorvo (Arch. f. Kinde, xi, 5 and 6) concludes a paper with the following propositions:

1. Disorders of digestion in children are very common in Brazil.
2. The high temperature of tropical climates during the long summer tends to the frequent development of gastric disorders, and this may be more or less influenced by the excessive sweating which the heat insures.
3. Gastro-intestinal diseases often coëxist with dilatation of the stomach in children more than two years of age.
4. In children under two years of age defective gastric digestion is usually caused by diminution or absence of free hydrochloric acid in the gastric juice.
5. In the subsequent years of life cases sometimes occur in which there is excess of acid in the stomach, but, as a rule, there is a deficiency, or a want of it, in dyspeptic children.
6. The remedy for deficiency in the supply of acid in the gastric juice, consists in the proper use of hydrochloric acid.—*Amer. Jour. of Med. Sciences*, Aug., 1890.

The Liver in Diabetes.—M. Frantz Glenard has recently been contributing to the Lyon Médical a series of papers on the condition of the liver in diabetes. His conclusions are founded upon the systematic examination of 324 diabetic patients (234 men, and 90 women) observed in private practice at Vichy; he found some manifest alteration in the liver in no less than 60 per cent. of his cases. Hypertrophy was the change most frequently observed; it was present in 34.5 per cent. In 23 per cent. there was indolent induration of the liver. He believes that he has been able to trace a regular series of changes—hypertrophy being followed by shrinking, in some cases by atrophy, and in any case leaving a liability to fresh attacks. The most characteristic point about the hypertrophy appears to be that it is generally limited to the right lobe.

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Original Articles.

ARTERIO-SCLEROSIS.

BY DR. H. HUCHARD.

In ward Andral, Hospital Bichet, is a man 60 years of age, who entered March 4th, 1885, for a dyspnœa. This patient, who was subject to bronchitis, and easily put out of breath by the least exertion, presented all the attributes of a pulmonary emphysema of long standing; but after a more attentive examination, we saw that an acute condition had lately grafted itself on the old thoracic malady. The pulse was full and vibrating, 120 a minute; the skin warm, with some vesicles of herpes around the nasal and oral orifices; temperature 102° F. Auscultation revealed the existence of generalized sonorous râles, with a focus of fine crepitant râles over a space equal to the palm of the hand in the right infra-spinous region; at this point also were observed diminution of the sonorousness to percussion, and slight bronchophony; moreover, he told us that he had been coughing for about a month. About a week ago, after exposure to cold, he experienced a slight pain in the side and a few chills; and the expectoration was slightly viscous and ropy, enabling us to affirm the diagnosis of broncho- or catarrhal pneumonia.

Two days after admission the acute symptoms disappeared; the fever yielded; the râles were much attenuated; yet the dyspnœa persisted, and in degree quite out of proportion with the stethoscopic signs.

The dyspnœa, moreover, presented certain particular symptoms: It was not continuous but paroxysmal, coming on chiefly in the evening and during the night, and so intense that the patient was obliged to sit up in a chair in order to breathe. He thought these were simple asthmatic attacks, though I was confident it was something more, and attentive study revealed the following peculiarities: In the midst of a respiratory calm apparently the most perfect, suddenly supervened an attack of dyspnœa; at first the respiratory movements were short and superficial, but gradually assumed wider and wider amplitude, finally diminishing in the same order of progression, ending in a sort of incomplete apnœa, or respiratory pause of about twenty seconds' duration, only to begin again and go through another series of dyspnœic breathings of like character.

Here we recognize the Cheyne-Stokes respiration, which is found in cerebral maladies, certain affections of the heart characterized by degeneration of the myocardium, and in diseases of the kidneys which have gone on to the uræmic period.

Encephalic disease could not be entertained, and the urine gave no trace of albumen; but over the heart, was perceived a slight *bruit de galop*, which, later on, became more marked. Then the heart was hypertrophied and gave a strong impulse to palpation; the first sound at the base was dry and parchment like, the second somewhat sharp and accentuated on the right of the sternum; and in the midst of the venous pulsations of the jugulars could be seen the arterial beating of the neck, more violent than in the normal state. Moreover, the radial pulse was hard, tense, concentrated, and the artery presented all the characters of atheroma at its onset.

The patient stated he was obliged to rise several times during the night to micturate; and again, the urine was pale, abundant, and of low specific gravity. Nothing more was needed to show he was suffering from interstitial nephritis, but especially from arterio-sclerosis. Moreover, after the 20th of March we noticed for the first time the existence of a slight cloudiness of albumen, and soon the renal evidence became more pronounced; the urine became more highly colored, more scant, and charged with salts, while the albumen presented itself under the form of an abundant curdy precipitate, the quantity of which was estimated at three grammes per litre. Moreover the *bruit de galop* was more manifest, and the attacks of oppression more violet.

We had, then, without doubt, a case of uræmic dyspnœa; and we have had further and experimental proof of this in the fact that the urine of the patient, when injected into the cellular tissue of an animal, did not produce a toxic effect.

What then had been the order of morbid accidents in this man? He had not been attacked suddenly with his renal affections, but the latter had existed in a latent state, so to speak, and demanded only a suitable opportunity to declare itself. This opportunity presented itself in connection with that pulmonary complication which, with its necessary extension to the right cavities of the heart, had

rapidly exhausted the cardiac muscle and precipitated thus indirectly the genesis of the the renal accidents, through a pre-existing alteration of the vessels of the kidney. But the important fact is, that the arterial system had been long affected, as this man had been a hard drinker and by his alcoholism brought upon himself this diseased condition of the arteries, the renal vessels being the first to be seized.

Another patient is a man of fifty-seven, also an alcoholic. His father died of apoplexy, and he himself, about six months ago, without apparent ictus, had a slow and progressive paresis of the members of the left side, which disappeared entirely in the course of six weeks, leaving behind a vertginous state, which manifested itself especially when he passed rapidly from the horizontal to the recumbent posture. Fifteen days ago, on rising, he noticed that the right leg dragged, and that he could but imperfectly use the right arm. He entered the hospital March 3d, and left apparently well April 4th.

Now to explain these two successive and incomplete attacks of hemiplegia that, coming on without shock, accompanied and followed by vertigo, disappearing after a few weeks without leaving any trace. We can only suppose there were accessions of cerebral ischæmia provoked by an atheromatous state of the arteries. This diagnosis was confirmed by hard and sinuous arteries with strong and resisting radical pulse, and a slight augmentation of the aortic dullness with resonance of the second sound at the right of the sternum. The patient had, moreover, long been affected with nocturnal pollakiuria, though the urine was clear and free from albumen, but of low density; and it is certain that his permanent polyuria—so distant from transient polyuria that so often follows hæmorrhage or cerebral ramollisement—indicated a commencement of renal sclerosis. At all events, this patient was certainly sclero-atheromatous, but his arteriosclerosis had begun in the cerebrum instead of the kidney.

A third patient, aged 63 years, carrying on the business of carriage painter, has occupied ward Andral since April 24th. One fact attracts especial attention, viz: The external atheromatous state of all his arteries. The region of the neck is strongly lifted by the arterial beatings; the radial artery is hard and flexuous; the precordial dulness is increased in all directions, and the chest wall is raised *en masse*, and gives the impression of the impulsive *heart*. On auscultation, the pulsations of the organ are found to be tumultuous and irregular, the sounds at the base booming without suspended *bruit*. First is perceived at the apex, in the axilla, a manifest *bruit de souffle*, which is not, however, permanent. It is certainly not one of those extra cardiac murmurs defined by Potain, for these morbid murmurs are almost never heard with large hypertrophied hearts, hence this transitory souffle simply reveals the temporary functional insufficiency of the mitral orifice supervening under the influence of the dilatation of the heart cavities.

The liver is hypertrophied, and painful to pressure; the lungs congested with a slight effusion in the right pleura; the urine is scanty, scarcely a pint a day, very high-colored, and charged with albumen.

All these symptoms began with the heart just six months ago, and the cardiac lesions revealed themselves, after fatiguing labor, by violent palpitations, pre-cordial anguish, dyspnœa on the least exertion, and œdema about the ankles. This patient is neither emphysematous or rheumatic, but is affected with an arterial cardiopathy; his arterio-sclerosis began with the heart, instead of with the brain or kidneys, as was the case with the other two patients.

March 17th, 1884, a man aged 54, exempt from rheumatic antecedents, who was a confirmed drunkard, entered the hospital. Since December, 1883, he had suffered from violent palpitations, shortness of breath, and asthmatic paroxysms. Already he had polyuria; which in February had augmented, and at the same time there was a constantly increasing œdema of the lower extremities. He presented a cyanosed appearance, with the oppression, violent palpitations, blood, sputa, and all indications of profound trouble in the circulation; he had a systolism, a double tricuspid and mitral souffle, and an enormously hypertrophied heart, comparable to that of Corrigan's disease. The pulse was atheromatous, and the bases of the lungs the seat of marked dullness.

I diagnosed arterial cardiopathy, and the autopsy proved me right. We found a heart voluminous and hard, weighing almost two pounds, with traces of pericarditis, enormous thickening of the walls of the left ventricle, a functional dilatation of the auriculo-ventricular orifices, very advanced atheromatous lesions of the aorta and other vessels. Moreover, the liver was hypertrophied, hard, and of cirrhotic aspect and consistence. The kidneys also were large, granular and red, presenting all the characters of renal sclerosis in the last stage. To sum up: All these lesions, to the naked-eye observation, corresponded well with that state which has often been described under the names of *cardiac kidney* and *renal heart*.

The histological examination presented no less interest, for it revealed the alterations of sclerous myocarditis, of hepatic cirrhosis, and of mixed interstitial nephritis.

This was then another case of arterio-sclerosis, which began with the heart where the lesions were more profoundly advanced than in the other organs. And if we sum up the clinical history, we see that this case does not belong at all to the famous morbid cycle indicated for the valvular affections in virtue of which the organs undergo morbid change in a determined order.

Now in the arterial cardiopathies, contrary is what takes places in valvular cardiopathies, this morbid cycle is rarely realized, and the organs become diseased in the order of the arterial lesions.

But to return to the three patients whose clinical history I have given. These patients, the first of whom was a renal, the second a cerebral, the third a cardiac, were alike suffering from arterio-sclerosis. Only the localization of the predominance of lesions in the organs distinguish them; yet they are united by the same anatomo-pathological process. In striking confirmation of this view, I may speak of a former patient who in the last period of his life, summed up these three localizations, and passed through the three states of which I have given examples. His history was, so to speak, a clinical synthesis of the arterio-sclerous process of which the three patients in our service presented the living analysis. Here was a man aged 68 years, and alcoholic after the fashion of certain people who intoxicate themselves slowly, progressively, in an almost continuous manner; he drank every day his two bottles of wine, and regularly four glasses of cognac. This continuous tippling differs notably from another form of alcoholic poisoning which we meet in laboring men, and which proceeds more irregularly by the absorption of large quantities of alcohol. The first leads to slow, progressive lesions of the arterial system; the second impresses severely and more rapidly the nervous system, and it is to this form that belong those grave nervous disorders known as alcoholic delirium, or delirium tremens. There are multitudes that are guilty of the first excess—almost without knowing it, and this constant tippling is almost certain sooner or later to lead to arterio-sclerosis.

This patient, then, was alcoholic, moreover, a migrainous arthritic, and had had several attacks of eczema. In 1879, he had a left transient and incomplete hemiplegia, which disappeared at the end of three weeks; in 1880, he became a little deaf, by reason of sclerous otitis; in 1881, he experienced on walking precordial pains, then attacks of real angina pectoris; to these symptoms were superadded palpitations, and the dyspnœa of effort; and a singular hardness of the pulse with the signs of sub-acute aortitis. In 1882, the palpitations augmented in violence, the shortness of breath became more pronounced, especially on walking, and there was polyuria and pollakiuria. The urine which previously had been examined several times without result, revealed now the presence of an albuminous cloudiness. I put him on an exclusive milk diet, which, at the end of a month, considerably ameliorated his condition.

In 1883, this patient, who had at first been a cerebral, then a renal, became frankly cardiac, with œdema of the lower extremities, passive congestion at the base of both lungs, and a large and painful liver. I detected a cardiac hypertrophy which was very marked, and a mitral *bruit.* Soon all these symptoms became worse, and death supervened amid the asystolism.

If we take into consideration the organs successively affected in this patient, and not the morbid process, one might well ask if this patient really had four distinct diseases in four years? Certainly not. He was affected with only one general disease, arterio-sclerosis, which localized itself successively on the circulatory system of the cerebrum, the kidney, the heart, and the aorta.

January 28th, 1885, a robust blacksmith, of alcoholic and rheumatic antecedents, entered the hospital, who had for six months all the signs of atrophic cirrhosis of the liver; urine scanty, full of urates; rapid emaciation. All the organs seemed more or less implicated; in fact, the man was emphysematous and presented all the signs of a passive pulmonary congestion of both bases. The arteries were hard and atheromatous; the heart hypertrophied with a very pronounced impulsive character in its beats; the first aortic sound was of parchment dryness, and the second sound, at the right of sternum, sonorous and changing. The very first day I affirmed the diagnosis of arterio-sclerosis, and the state of the arterial system of the man disturbed me more than the state of his liver.

Fifteen days after admission I witnessed the supervention of paroxysms of dyspnœa so out of proportion to the symptoms of hypostatic congestion and emphysema, that I had to hypothecate a cause. At the same time, the patient experienced the sensation of a bar across the sub-sternal and epigastric region. I also remarked accessions of facial pallor, œdema of the lower limbs, and later the existence of albumen in small quantity in the urine. At this time, auscultation of the heart revealed for the first time the existence of the *bruit de galop.* Then it was that, taking into consideration the augmentation of the aortic dulness, the elevation of the right subclavian artery, the beating of the cervical arteries, the diastolic resonance of the bases, I felt myself justified in affirming that the man was afflicted with pulmonary, hepatic, cardiac, and renal arterio-sclerosis, with all the signs of chronic aortitis.

April 4th the patient succumbed, having during the last few days of his life exhibited considerable increase of ascites, with diminution of urine, epistaxis, sanguinolent sputa, dyspnœa, and sub-delirium; and on autopsy the following lesions were discovered:

A quart or more of liquid in the right pleural cavity, hypostatic congestion of both lungs, pulmonary emphysema; heart hypertrophied, hard, of fibrous consistence, with lesions of sclerous myocarditis seen under the microscope; salient and gelatinous patches of subacute aortitis grafted to a chronic aortitis; liver granular, atrophied, of yellowish red color, with traces of red hepatitis; spleen voluminous with perisplenitis; kidney lobulated, red, decorticated with difficulty and presenting the well known lesions of sclerous nephrites. Neither did the stomach escape the pathological processes, for there were observed all the alterations of sclerous gastritis with thickening of the walls, especially marked in the neighborhood of the pylorus. Here then the liver, the aorta, spleen, kidneys, and stomach, were by turns the seat of sclerous transformation. Must we admit then that this man was the victim of six different diseases? If he had six diseased organs, there was but one disease, single in its anatomical processes, but varied in its symptomatic expressions and in its seat. This man's ailment was arterio-sclerosis.

What strikes one most in the history of this disease is the variety of its aspects; its action is felt on the entire arterial system, then all the organs of the economy may be affected. This it is that led Fabré, of Marseilles, to truly say: "There is no disease more proteiform than arteritis." We may, then, affirm that this ubiquitous process of degeneration, arterio-sclerosis, has its seat by turns, or simultaneously, in the principal viscera. And it is also proteiform by its accidents, manifesting itself here by hæmorrhage or cerebral ramollisiment, there by gangrene, elsewhere by cirrhosis. Nor is this all, for by the side of the isolated sclerosis of an organ, there are associated scleroses.

It has been long known that sclerous tissue may invade the heart and the liver, the heart and the kidney, the heart and the lung, the heart and the cerebrum, or even the spinal cord and the aorta. What must we conclude from this?

Some consider the cardiac lesion as primitive, but they do not explain the numerous cases where the renal sclerosis exists alone, in the absence of all cardiac lesions. Others, who place the primitive lesion in the kidney, are not in harmony with all the clinical facts, although Dickinson noticed cardiac hypertrophy 31 times out of 68 cases of Bright's disease, and Grainger Stewart declared that this coincidence is the rule. There are other theories: First, that of Bright, who attributed the cardiac hypertrophy to the irritation of that organ under the influence of the blood altered by the nephritis: That of Traube, who, having noticed cardiac hypertrophy in 93 of 100 cases of nephritis, attributed the first accident to exaggeration of arterial tension resulting from sclerous obliteration of the capillaries of the kidneys. But these dyscrasias do not explain the cases where the disease cannot be shown to have started or spread from the heart.

Thus it is that other theories have been established which may be called arterial: That of Kirke, who places the obstacles in the walls of the blood-vessels solidified by the atheroma; Of Gull and Sutton, who under the name of *arterio-capillary fibrosis*, locate the lesion in the capillary network invaded, as they believe, by a sort of hyaline degeneration: Of Johnson, who speaks of a hypertrophy of the muscular tissues of the vessels, caused by the effort provoked by the impediments to the circulation engendered by the contracted kidney: Of Gordon, who was the first to assign the principal rôle to the elevation of the arterial tension: Lastly, that of Gilewski and of Oscar Weitling, who attributed to reflex neurosis of the heart.

The truth was elsewhere to be found, however, and in 1871, a year before the labors of Gull and Sutton, Lanceraux summed up the theory thus:

There does not exist, to speak properly, any such thing as disease of the kidneys, and the alteration of the organs is the anatomical expression of a more general disease.

Here is the truth in a nutshell, and as a corollary to the preceding proposition, I have often said: Interstitial nephritis, before being a disease of the kidneys, is an affection of the entire cardio-arterial system. This view is now generally admitted; and as long ago as 1879, Peter remarked:

It is because there is generalized endarteritis that there is renal endarteritis, and consequently interstitial nephritis.

Hence, in order to indicate the true nature, we ought to substitute for the term interstitial nephritis, that of *arterial nephritis*. In a word, the cardiopathy, like the renal affection, depends on a lesion which dominates, and this lesion is arterio-sclerosis. Later still, Debove and Letulle showed that the sclerous nephrites and myocardites are "the co-effects of a general state, and of a sort of fibrous diathesis." They proved that the heart suffers the same alteration as the arteries, that the sclerosis in the first organ invades more especially the columnæ of the left ventricle, extending thence to the right heart, an anatomical fact which destroys absolutely mechanical theories like those of Traube. The hypertrophy of the heart is not only caused by

the necessity of overcoming an obstacle in its cavity, as in the case of the valvular cardiopathies, or a renal obstacle, as Traube taught, but has its *raison d' être* in an *intra-parietal* obstacle—in the cardiac sclerosis itself. Debove and Letulle have also recognized two periods in these nephrites, a renal period and a cardiac period; and they also observed that this clinical type may be *inverted*,—that the first period may be cardiac, and the second renal, a manifest proof that the one is not dependent on the other. Practical in clinical applications, as it permits us to include in the sclerous affections of renal type the lesions which connect the kidney with the heart, and *vice versa*, this theory is no less valuable from the point of view of general pathology. Henceforth, then, it is admitted that the cardiac lesions have the same, namely, a vascular origin.

These considerations are not applicable merely to the pathology of heart and kidneys, but are also true with respect to other organs, and other diseases. The cerebral hæmorrhages, retinal and nasal, and certain pulmonary or gastric hæmorrhages, in connection with interstitial nephritis, may also arise from arterio-sclerosis. The generalization of miliary aneurysms, is of the same order, and borrows a pathogenic importance from arterio-sclerosis. Do we not recognize these frequent coincidences with interstitial nephritis; and is it not the same with the gangrene of the extremities in the nephritic? Without doubt the former may proceed from vaso-motor troubles, and the latter form an integral part of the clinical history of arterio-sclerosis; they may have, but rarely, an embolic origin, but oftener supervene under the influence of arteritis of the members.

The sclerous process extends also to the stomach, and it is in this way that we are to understand the interstitial gastrites described by Thomager; it invades the liver, and thus it is that Handfield Jones noted hepatic cirrhosis in 26 out of 30 cases. Doubtless the cardiac liver generally comes from the obstructed venous circulation, but sometimes also, the lesions spring from arteritis and belong to the general alterations of the fibroid diathesis. We may even refer interstitial pneumonia to the same general cause.

If we pursue this inquiry, we may find still the same relations between arterio-sclerosis and the spinal medullary affections. In 1879, Berger and Rosenbach noted the coincidence between locomotor ataxia and aortic lesions; in 1880, Grasset, generalized this obstruction and extended it to impaludism, to Saturnism, and to alcoholism; the same year, Latulle considered the medullary and aortic lesions as two expressions of the same disease; and in 1884, Teissier brought new evidence to the confirmation of the facts cited.

In 1881-2 Hippolyte Martin and Adam Kiewicz, advanced the doctrine still another step by suggesting that in certain cases locomotor ataxia may be due to arterio-sclerosis of certain departments of the spinal cord. Here the anatomical objection may be raised that in the localization of the lesions in the myelites called *systematic*, the exact localization in the posterior columns for instance, can not be explained by the diffused alterations of the vessels. But this object can not apply to the diffuse myelites; to instances such as those diffuse scleroses of the posterior and lateral columns of peri-vascular origin; to observations as those of Demange where the peri-arteritis and the endarteritis of the spinal vessels gave rise to diffuse sclerosis of the medullary columns in a patient affected with atheroma and senile kidney; and to a case like that of disseminated sclerosis of vascular origin, which Dejerine mentions and which caused him to believe in the vascular origin of certain medullary scleroses. Finally, there exists a close relation between chronic arteritis and general paralysis, as Voisin has proved; and quite recently the thesis of Bordes-Pages has shown that aortitis and chronic arteritis were constant lesions in 52 cases of diffuse peri-encephalitis.

The pathogeny of the medullary affections, ordinarily so obscure, becomes the clearer and of greater amplitude; hence Demange has been led to affirm that sclerous endarteritis of the spinal cord determines lesions of two orders; diffuse sclerosis and hæmorrhagic miliary foci.

Arterio-sclerosis, then, extends its vast domain to both nerve centres.

PARIS, FRANCE.

UTERINE HÆMORRHAGES AND THEIR TREATMENT.*

BY DR. TERRILLON.†

Women, from the age of puberty until the menopause, suffer losses of blood recurring periodically every twenty-seven or twenty-eight days; these are termed the catamenial flow, the menses. But, beside these normal, physiological losses, we encounter in women abnormal, pathological flows—the metrorrhagiæ. These metrorrhagias are of great importance, for in the great majority of cases they indicate a lesion of the genital organs, and they may, by their abundance and duration, endanger the life of a patient. Hence, I desire to dwell at some length on the semeiological importance of uterine hæmorrhages and their treatment.

* A Clinical Lecture. Translated by Mr. Jos. Helfman, of Detroit, for MEDICAL AGE.

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Firts, however, it seems well to speak briefly of the classification of the metrorrhagias, and to recall the principal features of their symptomatology.

When hæmorrhage takes place between the menstrual periods, it receives the name of metrorrhagia; when, on the contrary, it accompanies the menses, augmenting their abundance and duration, it is termed menorrhagia. From a clinical point of view, we can distinguish three principal types. Sometimes, we have to deal only with menses more profuse and of longer duration than usual. Sometimes, the loss of blood, almost constant, is suspended only at irregular intervals. Sometimes, finally, the losses do not occur at long intervals, but are very profuse. It will be understood, moreover, that all kinds of intermediary cases are to be observed amongst these classic types.

The symptoms which accompany the hæmorrhage are also very variable. One which is to be found in most instances is the passage of blood-clots. This phenomenon need not surprise us, but it always greatly disquiets the patient, all the more as these clots are occasionally retained quite a while in the uterus before expulsion. They become hard and blackish, and their expulsion provokes uterine contractions; these are the uterine colics, similar to the pains of confinement.

Uterine hæmorrhage, when it is prolonged, gives rise to other important symptoms. It soon produces a special anæmia, when the sufferers present a yellowish-white appearance, difficult to define, but very different from the yellow, straw-colored complexion of cancerous cachectics. They are but slightly emaciated; they sometimes even present a kind of *embonpoint* due to infiltration from the subcutaneous cellular tissue. Anorexia, constipation, and general debility, always arise to complicate this situation, hence, the production of a special pathological type, readily recognized by the practiced eye; this is uterine anæmia. Finally, in some cases the loss of blood may be sufficiently profuse to produce death at the end of two or three metrorrhagias. Fortunately these cases are rare, if we except, of course, post-partum hæmorrhage. And here, it may be well to recall the fact that the hæmorrhage is always much less abundant than the patient believes. The latter imagines that she has lost two or three litres of blood when in reality only two or three grammes have escaped.

If the hæmorrhage is intense, it is apt to cease spontaneously, through syncope; the syncope is providential. Death in these instances ensues very slowly from anæmia and exhaustion, and not in a violent manner. On the other hand, if the hæmorrhages are not constant, the patients recover their health quickly.—It is surprising to observe how much blood is rapidly re-created in women who, in the course of a few days, may pass from profound anæmia to blooming health.

We must now ask: What are the causes of metrorrhagia; what are the affections which provoke it?

Under the influence of ancient theories, it was formerly believed that all maladies could cause metrorrhagia, and this power was attributed, successively, to anæmia, chlorosis, rheumatism, nervous affections. Certainly, it cannot be affirmed that all these causes are absolutely illusory, but what must be borne in mind is, that a persistent metrorrhagia is almost always the indication of an internal lesion of the internal genital organs of the woman.

For my part, I have seen only a single exception to this rule, this in the case of a young girl of 16 years whom I treated for persistent hæmorrhage, and in whom I could discover no appreciable lesion of the uterus.

It will, therefore, be comprehended that, when confronted with a metrorrhagia, we must seek the cause successively in the mucous membrane of the uterus, or finally in its annexes, that is to say, in the tube and in the ovary.

I shall begin by a study of this last ætiological source, one of the most important, and also one of those which has remained longest misunderstood. This ignorance is not surprising, for it is well known that lesions of the tube and of the ovary have only recently been made the objects of study.

All the salpingites, and especially the blenorrhagic salpingites, are accompanied by very persistent hæmorrhages. These are cases of menorrhagia. The menses are prolonged, more abundant, and several days too early. Besides, true metrorrhagias are sometimes seen to occur twelve or fifteen days after the catamenial period. These sanguinous flows are often one of the symptoms of inflammation of the annexes, but they frequently disappear, when the lesions are ancient, as a result of atrophy of the ovary. Other affections of the annexes can provoke metrorrhagia. Thus, in aged women we sometimes see the menses return as a result of the development of an ovarian cyst. The most singular cases are those of metrorrhagias ensuing after the performance of operations on the external genital organs. In a work published in 1874, I related several facts of that kind. After extirpation of a cyst in the vulvo-vaginal gland, two or three days later I observed the renewed appearance of true menses, quite abundant.

Metrorrhagias or menorrhagias have even been seen to result from amputations of the breast. There accordingly exist a certain number of regions, the irritation of which provokes uterine hæmorrhage, and I have classified them as follows: The sub-genital region: The sub-

abdominal region: The sub-mammary region, and, finally: The other parts of the body.

But all these causes of metrorrhagia give way in importance to the lesions of the uterus. Every time that the womb undergoes a pathological increase in volume, there is a loss of blood. Thus, uterine fibromas and especially the interstitial fibromas, produce menorrhagia as their first symptoms and afterwards intermenstrual hæmorrhage. If the fibroma develops itself from the side of the peritoneum, the loss of blood is only slight, and may be altogether lacking; the contrary is the case, if it develops from the side of the mucous membrane, forming a polypus.

Sarcomas and epitheliomas of the uterus are announced by the metrorrhagia which always precedes the pains in the chronological course of the symptoms.

Inflammatory affections of the womb are also frequent causes of losses of blood; and among them, there is one which we encounter every day in practice, and that is abortion. Even when the latter has been of the most benign character, the loss of blood will persist, as one of the consequences, frequently for a year or eighteen months. Such cases are constantly met with in the large cities, and one should bear them in mind. Chronic metritis, especially its mucous form, termed hæmorrhagic, gives rise to an abundant flow of blood, preceded and followed by a muco purulent discharge.

Thus, it is seen, the causes of uterine hæmorrhage are very numerous. I have only enumerated them rapidly; however, I shall give a few practical rules which will enable the practitioner in most cases to arrive at an ætiological diagnosis of a metrorrhagia.

Before 27 or 30, a woman who has leucorrhœa or other genital flux, has no fibrous body, at least I have never seen any at this age. Think then of abortion, so often mistaken, or of salpingitis, or of hæmorrhagic metritis. In this case, it is rarely that the touch will permit one to recognize an epithelioma

From 30 to 45 years, the causes of hæmorrhage are numerous—fiibrous bodies, epithelioma or sarcoma, polypi, metrites, abortions, salpingites—and diagnosis grows more difficult. Often it is almost impossible to recognize the small interstitial fibromas or the small intra-uterine polypi. In all cases, aside from an examination of the supposed affected organs, examination of the sanguineous liquid itself will give the precise information desired.

In hæmorrhage from fibroma or salpingitis, the blood is given forth almost pure.

In the case of epitheliomas, or fibromas due to degeneration, the blood is mixed with mucopus. Besides, in the intervals between the losses of blood, a hydrorrhœic liquid escapes, with yellowish clots, leaving on the linen a brown and stiff stain. Hence I cannot too urgently counsel examination of the linen of the patient; the character of the stains there observed will frequently furnish important indications. If the hydrorrhœic liquid gives forth a fœtid odor, *sui generis*, the diagnosis of epithelioma is in order. Remember, too, that in the case of sarcomas this special odor makes its appearance tardily.

Finally, after the menopause, the causal affection producing metrorrhagia, is almost invariably intra-uterine. We then observe a sanguineous flow, more or less periodic, prompting one to think of a return of the menses, and nine times out of ten physical examination reveals a sarcoma or epithelioma. Do not neglect, however, to think of the possible tardy development of an ovarian cyst or of an ancient fibroma, usually resulting from regression.

I now reach the most important part of our subject—viz.: Treatment.

Treatment of Metrorrhagias:—A variety of methods, medical and surgical, have been essayed in metrorrhagia. I shall not enumerate them all, but simply set forth the rules to follow, in order to arrest a metrorrhagia, and the consecutive measures to be taken with the patient.

The first thing when called to attend a woman suffering from uterine hæmorrhage, is to direct repose in a horizontal position, the pelvis slightly raised, the body sloping somewhat downward. Often, this simple means suffices to arrest the sanguineous flow; but if the hæmorrhage persists, what is to be done? There are many methods presented, and I will classify them in the following manner: Measures intra-vaginal: Measures extra-vaginal, and: Measures direct or uterine. It is to the internal measures that we will have recourse in the majority of cases, and it is on these that I prefer to dwell.

The most customary of these procedures is the employment of hot water, which has a certain hæmostatic action. But one must know how to apply it, and the mode of doing so in this instance is important. When the uterus is dilated, for example after confinement, it is possible to bring the warm liquid directly in contact with the uterine mucous membrane by means of the intra-uterine sound of Budin, when hæmostasis is rapid and easy. But in the cases which we have particularly in view, we must have recourse to a vaginal injection, and this one must know how to perform.

First of all, the water and the instruments should be rigorously clean. I absolutely proscribe the use of rubber cannulas, which are a source of constant contamination. Always employ cannulas of glass or red caoutchouc, which can be boiled. The water itself also

should be boiled and brought to a temperature of 122 degrees F.

As for the patient, she is then placed in a recumbent dorsal position, the buttocks being elevated by a basin which serves to receive the injected liquid. All being thus prepared, we commence by injecting a slight quantity of the liquid which, cooled by its passage through the tube, is about 113° F. Owing to the position of the woman, this water is retained without difficulty in the vagina, and when the organ is filled, you pinch the tube in order to arrest the flow of the liquid. One should proceed very slowly, and in such a way that one litre of liquid will suffice for an irrigation of 15 to 20 minutes. Thus the vagina and the cervix uteri are subjected to a veritable local bath which rapidly arrests the sanguineous flow. The water used for the injection may contain a mild antiseptic, but this is not necessary save when treating infectious maladies.

As for vaginal injections of liquids called hæmostatics, such as solutions of perchloride of iron, Pagliari's lotion, they are, permit me to remark, veritable delusions, and consequently I would not counsel their employment.

Hot vaginal irrigation is, I repeat, an excellent procedure, if properly performed. But if it fails, tamponment should be resorted to, and in that event, too, there are minute rules to follow.

Never fail to wash the vagina with carbolic acid water or bichloride, and use for the tampon only aseptic absorbent cotton, or better still, of iodoform gauze. Tamponment, as it has been at times performed with improper substances, is in truth a frequent cause of infection. When obliged to resort to this, I advise the use of the speculum, with the aid of which one can make a regular and methodical tamponment. Such are the by far most important remedies for arresting metrorrhagias; most others are only illusory, and I shall dismiss them briefly.

External measures, such as the application of ice to the vulva or abdomen, mustard plasters, ligation of the four members as near the trunk as possible, rarely give good results.

Medicinal substances which are efficacious, and may be administered in metrorrhagias, range themselves into two classes: One, such as the opiates (morphine dressings, lavements of laudanum) act by paralyzing the uterine muscle, arresting the uterine contractions; the other, such as ergot, black haw, and hydrastinine, act on the contrary, by causing the uterus or its vessels to contract.

In accordance with the peculiar features of the case, the one or other of these substances may yield good results. But often this can be told only after trial. Thus, with some women suffering from fibroma, ergotin at times augments the sanguineous flow, instead of arresting it.

One often sees prescribed potions of perchloride of iron, the action of which seems to me theoretical rather than real; but cannabis Indica would, I think, have a most efficacious action.

But to have arrested the uterine hæmorrhage is not all. If we wish to prevent its recurrence, it is necessary, after the local treatment, to apply a general treatment.

"Hæmorrhage," as has been said, "invites hæmorrhage;" as a result of the fluidity of the blood, it produces a species of artificial hæmophilia. It is accordingly of the greatest importance to re-establish the general health of the patient suffering from metrorrhagia.

For this purpose, we should prescribe sojourn in high altitudes, dry friction applied to the entire surface of the body with hair-gloves, and particularly baths of salt water. All these means provoke, by a general excitation of the skin, an invigoration of nutrition.

There is also an empirical measure resorted to in Russia, which I have employed on five occasions with success. This is the sun-bath. The patient should recline on a long chair or lounge placed in full sunlight, being dressed in a black robe, and protecting the head by a parasol. In this natural hot-house, an abundant perspiration follows, the temperature rising to 100.5° and 101.5° F. Finally, a diminution or a complete cessation of the flow of blood is observable, the appetite returning and nutrition improving.

As to tonics, such as the wine of cinchona, I hold them to be rather hurtful. If prescribed, see that they are taken during meal-time, and at the same time avoid everything that may irritate the stomach and impede the digestion of food, and, in consequence, the real alimentation of the patient.

PARIS, FRANCE.

ELECTRICITY IN THE TREATMENT OF LACERATED CERVICES.

BY FRED R. BOYD, M.D.

I have lately been following out the treatment laid down by G. Betton Massey in *laceration* of the *uterine cervix*. I think it can hardly be a year since the only successful method we knew of for the permanent relief of these most obstinate and distressing conditions, was to be found in what the profession knows as *Emmett's operation*. This consisted in first anæsthetizing the patient, then drawing down the cervix, or the whole uterus, until proper manipulation of the cervix by instruments could be secured, then paving or freshening the remaining healthy mucous membrane on each side, cutting out completely the deeply imbedded fibrous tissue lodged in the old cica-

trix, leaving a strip wide enough on each opposing lip of the cervix to form a new canal when drawn together. The last step of this operation, namely, putting in the deep sutures, generally proved the most difficult, from the fact that failure as to general results always followed unless these sutures were deep enough and strong enough to include all the tissues involved, great care being first taken to remove the last vestige of fibrous tissue. If this operation were well performed, and extreme care subsequently taken in nursing and dressing the parts during the process of healing, we could in the majority of instances look for a fairly good result. I recognize the fact that among enthusiastic operators the great tendency is to overlook the power of Nature to restore a certain percentage of these cases by a proper absorptive treatment, and instead to plunge headlong into everything designated by laceration, with the knife. That this operation has often been resorted to when it might have been avoided, I doubt not; yet we frequently meet cases where, if we desire to benefit our patient, the only thing at our command is this (to the surgeon) uncertain, and (to the patient) dreaded operation. That the development of science within the profession begins to open up a brighter day, in which the very worst of these cases can be pleasantly and permanently cured, certainly gives great signs of promise.

I have treated five cases within as many months, wherein, had I been left to old-time choice, I could have promised nothing without my patients submitting to *Emmett's operation.* I have in the meantime had the pleasure of seeing the rapid disappearance of all signs of fibrous tissue, the scar or cicatrix fill up, and the cervical extremity quickly assume its normal appearance, as well as all the heretofore distressing reflex symptoms usually attending these cases disappear, and my patients restored to perfect health. In the meantime I have treated many cases of more mild degree with just as enjoyable results.

I have refrained in this paper from going into detail as to the methods employed, because I take it for granted that every wide-awake physician has been reading what has been going on in this field of surgical science. No one, I think, can follow closely upon the developments that each day is bringing forth, without feeling within himself an awakening to better opportunities, better work, and grander accomplishments for this multitude of suffering humanity.

My method of treatment has consisted mainly in the use of *strong Galvanic currents*, as laid down by Massey in his little book on "Electricity in the Diseases of Women." I have been using it largely in all affections of the uterus and its appendages, and with most gratifying results, but I dwell more particularly upon lacerations of the cervix, because it seems to me to be a happy conquest over former procedures, and I firmly believe it will fail of the most happy results in *no* case where properly used.

I did think it expedient at one time to classify these cases and go into a more systematic clinical history of them, but I hope by thus giving the profession at large a more general idea of the workings of electricity as I use it, to stimulate all to the investigation of the subject. My experience in the last year has certainly—putting it in the most conservative manner—been worth more than I can well estimate, both to me and to my patients, and I cannot but think that I am only expressing the sentiments of all who have gone into this field of thought. The results have been so truly gratifying, that, while I am not an enthusiast, yet I have become more or less enthusiastic upon this subject, and I hope we shall hear more in the future upon it through the AGE, for I cannot but think it worthy of further development than has been made at present.

ST. JOSEPH, MO.

CLINICAL NOTES.

GRAVE ICTERUS.

Dr. Chas. W. Mertz of Manitou, Colorado, writes the AGE as follows:

Grave icterus is distinguished from ordinary jaundice by manifestations of blood-poisoning and peculiar dyscrasia, without perceivable anatomo-pathological lesions to account for the symptoms present; such at least was the history of the following case:

Mrs. Matilda L., Manitou Springs, Colo., age 37 years; mother of five children; ambitious in the provident care of her family; and in circumstances compelling the most laborious undertakings; was obliged Nov.. '89, to relinquish work from physical prostration, accompanied with headaches, disturbed digestion and anorexia. In a few days jaundice appeared, limited at first to the conjunctiva, but extending within a fortnight to the entire bodily surface. The symptom next following was heart disturbance, at which juncture a physician was called, who diagnosed the trouble "heart disease;" and as all symptoms were growing rapidly worse and a new one in bleeding from mucous surfaces,—nose, stomach, and bowels,—appeared, he became very much alarmed, and advised removal to a lower altitude. Preparations were rapidly made for her sojourn for a season at Pueblo. At this place the physician who took charge of the case also pronounced the trouble heart disease; but as no improvement took place, she

was removed to a hospital, where consultation was held, the consulting surgeon pronouncing it a case of "liver disease." It seems, however, that the physician in charge "being convinced against his will, held the same opinion still," as a telegram was sent by him to Manitou shortly after to the effect the *heart trouble* had become imminently dangerous, and calling relatives to her bedside.

The patient now rallied and in a few weeks returned to Manitou; but the symptoms still obtained, viz: Nausea and mucous hæmorrhages. Another practitioner now took temporary charge of the case and prescribed tonics. For a time she seemed to improve but the physician not wishing to continue, the case fell into my hands.

March 1st vomiting recommenced with rigors and intense retching. Responding to a summons, I found the patient prostrated with adynamia; temperature 104°; pulse 120, feeble, and irregular; stomach very irritable, with fullness in the epigastric space, but no pain on pressure over this or any other portion of the abdominal region. There was considerable hæmorrhage from the nose, and the gastric ejecta and alvine discharges were mixed with blood. Respecting the jaundice every visible part of her body was imbued alike with the deep icteroid hue. I prescribed sol. cit. magnesia, U. S. P., to be taken at once, and followed with $\frac{1}{20}$th grain powd. ext. aconite; $\frac{1}{8}$ grain calomel; $\frac{1}{10}$th grain powd. ext. nux vomica together in a capsule every two hours.

Eighteen hours later I found my patient weaker, skin hot and dry; temperature 102°; pulse 110; hæmorrhage from the bowels increased; more than half the medicine given had been ejected, and my attention was called to the fact that she had not urinated for 24 hours. Examination showed this to be suppression of the secretion; and auscultation discovered a low irregular gurgling sound over the base of the heart.

I now ordered: Pulv. cubebs 8 grammes; sweet spt. nitre 96 grammes; normal liq. ergot 16 grammes; a teaspoonful in water every two hours.

Called to her bedside again in a few hours; found her comatose. In this condition, without further examination than to judge of her latent vitality, I had her lifted to a chair properly prepared with an alcohol lamp burning beneath, and, winding blankets about her, had her supported in this condition for about the space of twenty minutes. The heat thus supplied revived her to the extent of calling forth a low moaning cry, and movements of limbs. She was now lifted back to bed, and hot irons placed from either shoulder to the feet. After these were continued several hours, consciousness returned, and the nitre prescription was again administered. Diuresis commenced at this time, and became copious within six hours. The skin also became moist, temperature declined, and pulse became stronger. I now ordered: Quinine, 3 grammes; Betanaphthol, 5.50 grammes; pepsin purum, 4 grammes; divided into fifteen capsules of which one was given every hour. The nitre and ergot prescription was continued, alternating with the foregoing.

Leaving the patient twelve hours, I returned to find all favorable symptoms augmented. Treatment continued as before, and continued improvement—no emesis, and very slight hæmorrhage. The succeeding twenty-four hours, beef broths and chicken stew were retained. I now discontinued the nitre prescription, and replaced with the following: Hydrarg. bichloride, gramme 0.07; tr. ferri chloride, grammes 64.; aqua distil., grammes 128. A teaspoonful to be taken in water every four hours. Frequent movements of the bowels now set in. Stimulating and sustaining foods were forced. Three pints of milk were ordered taken daily, and the medicinal treatment continued. Within a week from the commencement of the use of the bichloride, there was plainly perceivable a diminution of the icterus, and within a month the patient was virtually restored to health. After this, I had several physicians examine the patient for heart lesions, or other organic deviation from the normal physiological status, but none were discoverable.

INSOMNIA.

Dr. Folsom's examination of his cases showed the following causes:

1. Perverse habits.
2. External causes, including sensations, habit, heat, cold, hunger, noise, etc.
3. Excessive intellectual or mental activity, including excitement, grief, fear, etc.
4. Reflexes, of which indigestion was far the most common. This might fail to be indicated in the usual ways; next genito-urinary reflexes.
5. Traumatic causes.
6. Autotoxic, in acute diseases, rheumatism, malaria, nephritis, constipation, excessive use of tea, bromides, etc.
7. Exhaustion from wasting diseases, sexual excesses, impaired nutrition of the brain.
8. Insomnia of vascular origin, from hepatic, cardiac, and renal diseases, cerebral hyperæmia, arterial sclerosis, in syphilis, during puberty, menopause, etc.
9. Vaso-motor causes.
10. The neuropathic temperament, usually inherited, sometimes acquired.
11. Other diseases, as hysteria, hypochondria, organic diseases of the brain, etc.

The treatment related to change of habit, hygienic conditions, change of place, use of drugs, but hypnotics required to be given with care, and with the fact in mind that their long-continued use might be injurious or dangerous.

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Editorial.

DEATH OF DR. BRODIE.

It is with profound sorrow we are obliged to chronicle the demise of Doctor William Brodie of this city, on the 30th ult. He was a gentleman well and widely known among the profession, and universally honored by all. He was President of the American Medical Association in 1887, and twice served as vice-President, and once as Secretary of the same body.

In the ranks of the medical profession of Michigan, he was exceptionally prominent, and a conspicuous figure in medical societies and in all measures of reform. He was also associated with the Detroit College of Medicine, and for some years edited the Therapeutic Gazette.

Dr. Brodie was likewise a profound political factor in his adopted city and State, and though perhaps unswerving in matters of National concern, in those of local import he was guided entirely by the needs of the community, and sought only the results best suited to the welfare of the public. So too in medical matters; and while in attendance upon Societies if he often appeared aggressive and dogmatic, this was more upon the surface than in reality; the same generous end was in view. Possessed of all the pertinacity inherent to Scottish blood, he was stern and uncompromising in matters of right, yet nevertheless amenable to argument when in error, and ever ready to acknowledge and aid any measure offered in the interests of the profession or of society at large.

Beneath an apparently brusque exterior, Dr. Brodie possessed a warm and kindly heart. His friendships, as may be imagined, were ardent and strong. He lived to see his adopted city grow from a mere village to a wealthy prosperous corporation of more than a quarter of a million inhabitants, and to that prosperity he contributed in no small degree. He also aided in lifting medical progress and medical education to their present standard, in not only Michigan, but the whole United States.

Born in England, at Farley Court, on June 28th, 1823, of Scotch parents, Dr. Brodie came to the United States in 1833. He began the study of medicine in 1847, attending first the Berkshire Medical School at Pittsfield, Mass., graduating in 1850 from the College of Physicians and Surgeons, New York, immediately thereafter removing to Detroit, where began the Damon-and-Pythias-like friendship between him and the late Dr. Zina Pitcher, which was broken only by death of the latter. Almost immediately appointed Surgeon at St. Mary's Hospital, he retained this position until 1861, when he resigned to enter the late civil war as Surgeon of the First Michigan Volunteer Infantry. Shortly after entering the field, he was promoted Brigade Surgeon, but was soon after compelled to resign to meet the requirements of home affairs.

Through his death, a vacancy is made in the ranks of the medical profession, not alone of Detroit and the State of Michigan, but of the country at large, that cannot well be filled. He leaves a wife and daughter, and also two sons, one of whom, Dr. Benjamin Brodie, will worthily wear the mantle of his father.

ARTERIO-SCLEROSIS.

If with the old text-books on pathology, inflammation is the morbid process *par excellence*, and forms the basis of all disease—so that, being understood, the manner in which the various organs will behave can be easily inferred—it may be affirmed that of recent years the degenerative process termed *arterio-sclerosis*, or, as some would have it, *angeo-sclerosis*, has assumed prominence in pathology, and is largely modifying the prevalent conceptions of many of the most common diseases.

It is a disease affecting an important physiological system, viz., the blood-vascular; it may attack the heart and arteries simultaneously, or may first affect the small blood-vessels in a remote region of the body, and only secondarily attack the heart; or it may invade numerous organs at the same time. One, for instance, may have interstitial nephritis, and simultaneously the liver and stomach be cirrhosed, the heart hypertrophied, its arteries atheromatous, and its muscle fatty; the autopsy will disclose a generalized arterio-sclerosis which was the *fons et origo mali*. It is now generally conceded that the frequent form of Bright's disease known as *cirrhosed kidney*, *contracted kidney*, *interstitial nephritis*, etc., is simply a manifestation of a disease beginning in the fine arteries and ending in an extensive connective tissue overgrowth which chokes out and destroys the secreting elements of the kidney. If the process is of nephritic origin, it sooner or later involves other organs, particularly the heart; it is not so much a kidney disease as a disease of the whole arterial system.

Cirrhosis of the liver, of the lungs, even the

scleroses of the spinal cord, are now regarded by some pathologists as expressions of this one general morbid process.

As for the causes, they are manifold. Heredity plays a most important rôle, while gout, rheumatism, syphilis, alcoholism, Saturnism, various poisons introduced by food, drink, and respiration, are often held as prime factors. Huchard, who has written more on this subject than any one author, assigns great importance to mental emotion as a cause, and gives a very ingenious explanation of the *modus operandi* of mental anxiety and worry in bringing about the permanent state of hypertension of the small blood-vessels which is the direct antecedent of the disease. Of all the predisposing influences, doubtless old age is the most potent; in fact, in the aged, death probably oftener begins in the arteries than elsewhere, and arterio-sclerosis, in the expressive words of Hippolyte Martin, is "the rust of life."

JAMBUL IN DIABETES.

Egasse (Bulletin Géneral de Thérapeutique) exhaustively treats of Jambul in diabetes, summing up the physiology and therapeutics of the subject somewhat as follows:

Experiments of Lascelles Scott, repeated by Balfour, of Edinburgh, and by G. Sims Woodhead, appear to show that Jambul prevents the saccharification of starch under the influence of malt. They operated on starch by the addition of diastase in known proportions, and then added variable quantities of powder of Jambul to the solution; there was obtained, on heating the mixture to 65° C., 15.84 of sugar, a proportion reduced under the same conditions to 11.98 with one gramme of Jambul, to 6 with two grammes, and to 4.9 with three grammes.

Experiments on animals, undertaken by Grœser, of Bonn, showed that dogs which excreted 5.89 grammes and 12.45 grammes of sugar under the influence of phloridzin, excreted, when Jambul was also given, only a maximum of 2.90 and a minimum of 1.50. This administration was found to be unattended with toxic effects, whatever dose was given. Not only the seeds, but the whole fruits or their envelop, were employed, an extract being obtained by concentration; 100 grammes of the fruit was represented by $16\frac{1}{3}$ grammes of the extract of the juice, and $11\frac{2}{3}$ of the extract of the rind. The maximum dose was 18 and the minimum 6 grammes. The active principle is not known.

The uses of Jambul in therapeutics were first learned from the Indian physicians, who affirmed that not only does it cure diabetes, but further enables patients while using to eat whatever they please without any augmentation of sugar in urine.

The first therapeutic trials were made in Europe by Clacius, afterwards by Caldwell. Clacius gave the powder to three diabetic patients in doses of five grains, repeated several times a day; there was a notable diminution in the quantity of urine voided, and the proportion of sugar fell from 8 and 6 to 3 per cent., and even lower. One of these patients, at least, was allowed to pursue his ordinary diet and partake freely of potatoes, bread, and sweets, while under treatment. Caldwell used the drug in four well marked cases, in three of which it seemed to do good. These patients were kept on the anti-diabetic diet, and the dose was five grains of the powdered extract, three times a day.

In the Lancet of Oct., 1887, Robert Saundby states that he has employed Jambul in doses of five grains three or four times a day in diabetes. Eight trials were made; in five there was an increase of the sugar, and in three decrease. In the same journal a year later (October 8th, 1888), Dr. E. H. Fenwick states that he found Jambul of great service in diabetes mellitus.

In some of the cases the use of the drug was attended with arrest of the emaciation, and general improvement of the nutrition; sleep became more natural; and the patients were not obliged to rise so often in the night to urinate.

One of the patients of Kingsbury, of Blackpool, was markedly benefited; the urine fell from 7 litres per diem to 5, and even 4, with great diminution in sugar; the specific gravity fell from 1040 to 1020; the thirst and appetite became normal. The patient followed his ordinary diet without any restriction.

According to W. H. Morse, Jambul acts by augmenting the vaso-motor and reflex functions of the spinal cord, by raising the blood-pressure, especially in the renal arteries; it always produces nausea; the inspiratory movements are more numerous and more profound; the peristaltic movements of the intestine are augmented. Administered to diabetics, it diminishes the density and quantity of the urine, reduces the proportion of sugar which it contains, and causes disappearance of the intolerable thirst and other symptoms of this affection.

Similar results have been noted by Fenwick, who has seen wounds and ulcers, so difficult of healing in the diabetic, cicatrize rapidly and get well.

Mahomed of Bournemouth reports a case of diabetes in a syphilitic patient which was markedly benefited under Jambul.

Other clinical reports—from Allen, Von Ledden, Hulsebosch, Hemminger—give equally favorable results. Allen and Hemminger took care to eliminate all sugar and starch from the dietary of their patients while taking the remedy. The doses employed were six to eight

drops of the fluid extract, three to five grains of the powder.

Egasse declares that it is especially in diabetes of medium intensity that Jambul gives the best results, when the quantity of sugar does not exceed 8 to 10 grammes per litre. He prefers the seeds, which may be given in the form of powder. The dose is five to eight grains three or four times a day; this may, without harm, be increased to 20 or 30, or even 40 grains in the twenty-four hours.

As for the way in which the drug acts it probably continues in the alimentary canal its action restraining saccharification, thus rendering the same service as the rigorous dietetic regimen of Bouchardet; what chemcal principle effects this, is not known. In diabetes of alimentary origin, then, its *modus operandi* may be of the chemical nature above hinted. In diabetes of nervous origin, it is probably by its action on the vasomotor centres that it does good. It thus acts after the manner of bromide of potassium, which has rendered such real service in this form of disease.

Its rôle, then, is not limited to combating the formation of sugar in the economy, but it has a general tonic effect, as is evinced by the rapid manner in which chronic ulcers heal under its use.

THE SHAH'S CONSORT AND THE SOOTHSAYERS.

It is now authoritatively stated that the malady for which the favorite wife of the Shah of Persia consulted Vienna oculists, and subsequently underwent operation, was not glaucoma, but entropion.

So far as can be discovered, no professional account of the case has ever been given to the public—certainly not through Austrian, German, or French journals,—though such would possess more than ordinary interest, from the fact that the patient is not alone the consort of a Oriental potentate, but a Moslem, and hence must have violated the Mohammedan rule regarding the lifting of the veil and exposure of the countenance to strangers of the opposite sex. Again, it is generally understood the journey to Europe was undertaken in consequence of the predictions and advice of the Shah's astrologers, who were confined to await the result.

It is now intimated that the operation, far from being a success, resulted disastrously; that complete blindness has supervened,—presumably from severe keratitis.

Under such circumstances, it is more than probable that the advantages accruing to a specialist, as between the court of Iran and the hospitals of Vienna, are vastly in favor of the latter. To be sure it is but human to err, and astrologers in their predictions, despite their high calling, must sometimes meet the fate that ever attends uncertainties; but unfortunately such is not expected of them, and the Shah, who is an absolute ruler, may emulate a certain Scriptural predecessor, and thus make room for a second Daniel. If, as is popularly believed, these astrolators are lying in "chokey" awaiting the pleasure of their royal master as determined by the result of the operation upon the chief lady of his zenana, it is more than probable their stature may be abbreviated by half a cubit, and they thus experience a "happy release" that will waft their souls to the confines of the Islamic paradise.

In the meantime it is a fatuitous circumstance that the customs of the semi-barbarous Orient permit such speedy justice while a much more criminal class of similar pretentions are permitted to exist, unrebuked, in the midst of the highest civilization; otherwise there might be a somewhat sudden accession of vacancies to the ranks of American soothsayers.

BROWN-SEQUARD'S INJECTION AGAIN.

A new communication on the action of injections of testicular fluid, from Professor Brown-Sequard, has been recently received by the Biological Society of Paris, and is as replete with interesting details as was that of a year ago which excited the curiosity of the entire world.

The eminent Savant most justly complains of the raillery to which he was subjected by the medical and lay press, and as La Union Medicale shared in the offense, it now makes *amende honorable* by opening its columns, and inserting by way of rectification the new results obtained.

The latter only serve to confirm the first. "You all know" says Professor Brown-Sequard "the excessive enthusiasm which the vulgarization of my conclusions, well or ill comprehended, aroused among the valetudinarians of all orders. * * *

I have made it a rule, which I have not transgressed, to abstain personally from any application of my researches to invalids. This I have adhered to, not without reluctance, for I was soon obliged to flee before the invading tide of solicitations and solicitors who took my house by storm. I took refuge in England at a place altogether unknown, where I could live in repose. During this period of three months, I made no new injection, and was accordingly enabled to observe the subsequent course of the benefits which I had derived from my first experiments.

During the first six weeks which followed my injections I did not seem to experience the slightest diminution in my rejuvenation, but at the end of this period the benefits began to fade away; first, the capacity for labor diminished, then the muscular power; then the force of the jet of urine, the intestinal functions returning gradually to their condition before the

injections were made. I made no new ones, however, and when, attacked by a violent whooping-cough I was obliged to leave for Nice, where I passed the winter, I had no intention of resorting to the injections again in the near future. But as my debility increased under the influence of the malady, I resolved to employ a means which had already benefited me so greatly, and to avail myself again of the testicular liquid.

Not having at his disposal the necessary antiseptic means, Prof. Brown-Sequard substituted rectal injections for the subcutaneous, finding sufficient the triturate of two testicles of a Guinea-pig, diluted with fifty cubic centimetres of distilled water; it produced precisely the same results as did the subcutaneous injections before employed.

Dr. Brown-Sequard also spoke of two cases of leprosy in which injections into the rectum of testicle juice had been followed by diminution of the ulcers, disappearance of paralysis, anæsthesia and œdema, return of sleep, and renewal of the hair. He offered an explanation for these curious facts, and added that ovarian juice is like that of the testicle, while being somewhat less efficient and less irritating.

Others, says L' Union Medicale, besides have been benefited by these injections "as made by men of weight, savants of recognized reputation—patients suffering from attacks of marsh cachexia, others from locomotor ataxia, others from hemiplegia as a result of cerebral lesions, others from anæmia following hæmorrhage, etc."

The query has been made whether these injections did not act by suggestion, as some have claimed? Dr. Brown-Sequard thinks not, since with the insane, who are not susceptible to suggestion, the same remarkable effects have been obtained as with persons in full possession of their intelligences.

A propos of the foregoing, Doctor Carswell Scone, in the Medical World, says he has felt the need of something to tone up the life principle, being seventy-one years old. He believes in the injections, and recognizes the difficulty both in securing and properly applying. Finally, after mature investigation, he took a sound fresh egg, broke into a saucer, and with the aid of a pair of forceps separated the cytoblast (semen) from the ovum. This he applied by means of the hypodermic syringe, and on another occasion by means of a raw blistered surface, with the result of in five minutes obtaining a "characteristic thrill and warmth with increased action of the heart."

It seems unnecessary to add to these observations, and those of Variot, Mairet, Crivelli, Hammond, Loomis, Brainerd and others,—gentlemen all beyond suspicion of incompetence or immorality. It is apparently beyond cavil that testicular liquid does exercise upon the nervous system some special tonic influence, obvious and considerable, though further information is required to give the physiological key of such action.

Book Notices.

Identite De La Dengue et De La Grippe-Influenza. Par Docteur Jules Rouvier. Paper; 8vo; pp. 48. Price, 1 franc. Published by Jacques Lechevalier, Paris.

The author is convinced that dengue and influenza, if not absolute manifestations of the same poison, are at least closely related. The argument is elaborate, and withal sometimes a trifle obscure; and though interesting, the author is far from proving his case in a way that will be at all convincing to those who have had practical experience with "break-bone fever" in the Southern United States. It is no way certain that the latter malady is ever truly epidemic, though it is most certainly endemic. There are always, also, sporadic cases to be found within its habitat, as in the Gulf or South Atlantic States, regardless of any epidemic influence. Further, the complications and sequels to influenza, as observed on this side of the Atlantic, rarely, or almost never, supervene upon dengue.

Railway Surgery for Railway Surgeons. By C. B. Stemen, A.M., M.D., LL.D. Cloth; 8vo; pp. 315. Price, $3.00. Published by J. H. Chambers & Co., St. Louis, Mo.

The author states this work is the result of personal "experience in the practice of accidental or railway surgery," and his "strong belief that a treatise on this special department is strongly needed."

As a matter of fact, the volume appears to have been most hastily prepared, considerable of the material being obsolete, and a great deal more available from other sources. It is better suited to the needs of the tyro than the experienced practitioner. Nevertheless there are many commendable features, and the *resumé* upon Anæsthetics, in the fourth chapter, is especially interesting just at this juncture. The author's recommendations regarding the production of anæsthesia, however, are open to criticism. We also observe numerous typographical inaccuracies which mar the value of the book.

Bourneville and Bricon's Hypodermic Medication. By Dr. G. Archie Stockwell, F. Z. S. Cloth; square 12mo; pp. 150. Price, 50 cents. Published by Geo. S. Davis, Detroit.

This is one of the Leisure Library series of 1889–90, and likewise one of the most valuable. The *Manuel des Injections Sous-cutanées* of Drs. Bourneville and Bricon has achieved such notable success in Europe and the United Kingdom as to need no apology for introducing to American readers. The work has been almost wholly rewritten by the editor, and in many particulars condensed, rearranged, and added to, in a way to meet the demands of cis-Atlantic practitioners. As it is the only work of the kind at present available in the English language—Bartholow's work having been out of print for some years—we bespeak for it the extended circulation that it deserves.

Notes and News.

Newspaper Pathology.—The credence of the daily newspaper editor surpasses all belief, or else he imagines his readers are of so low an order that after perusing his editorials they are prepared to swallow any form of absurdity. Witness the following from the Cincinnati Li—Enquirer:

In the early part of November last Mrs. Leuzer was eating a hard piece of candy. It broke her false teeth, which frightened her so that she clapped her hand to her mouth, and in doing so the false teeth were knocked down her throat and she swallowed them. Nothing more was thought of the matter after a few days. On July 30 Mrs. Leuzer gave birth to a bouncing boy. The child was unusually large for his age. Mrs. Kruse, a midwife of 126 Clark street, and who is well known in the West End, attended Mrs. Leuzer, and about a week after the child first saw the light of day Mrs. Kruse was washing the child's mouth, when she was startled to find that the baby's upper lip was festered. She washed it with borax, and continued the treatment for several days, and while pressing the gum was horrified to see it open, when a big tooth dropped out in her hand. At the same time she handed Mrs. Leuzer the tooth, and a startling reply was made by Mrs. Leuzer, who said: "Why that is one of my false teeth!"

The babe seemed to be greatly relieved by the extraction of the tooth, although it never displayed any signs of suffering.

Mrs. Kruse called several times a day to attend the child, and in as many days extracted seven of the mother's false teeth from the little one's upper gum. Two of them were large jaw teeth. In addition a crumbled tooth was also taken out in pieces.

The day after the last tooth was taken out Mrs. Kruse, while washing the child, discovered that it also had been born with teeth of its own, for peeping out of the lower gum were two well-formed molars.

As soon as the teeth were removed the gum healed up, and to-day the baby is as healthy as it possibly can be.

Boil It Down.—

What ever you have to say, my friend,
Whether witty, or grave, or gay—
Condense it as much as ever you can,
And say in the readiest way.
And whether you write on rural affairs,
Or particular things in town,
Just a word of friendly advice—boil it down.

For if you go spluttering over a page,
When a couple of lines would do,
Your butter is spread so much, you see,
That the bread looks plainly through;
So when you have a story to tell,
And would like a little renown,
To make quite sure of your wish, my friend—boil it down.

When writing an article for the Press,
Whether prose or verse, just try
To utter your thoughts in the fewest words,
And let them be crisp and dry;
And when it is finished, and you suppose
It is done exactly brown,
Just look it over again, and then—boil it down.

For editors do not like to print
An article lazily long,
And the general reader does not care
For a couple of yards of song;
So gather your wits in the smallest space,
If you'd win the author's crown;
And every time you write, my friend—boil it down.

Successful Removal of a Tumor in the Brain.—At a recent meeting of the Berlin Medical Society, Dr. H. Oppenheim described an operation of this kind. The patient was a woman æt. 36. She had enjoyed excellent health till last September, when she began to suffer from clonic spasms in the temporal region and in the left arm, and frequently fell into convulsions. On recovering consciousness she complained of pain in the right temporal region. The symptoms recurred, and a diminution of the sensibility of the left arm and side set in. The diagnosis pointed to a growth in the brain. As internal treatment only made the patient's condition worse, and the left foot also became rigid, the skull was opened on April 26th, under antiseptic precautions, and the surgeons removed a tumor about the size of a crown piece. The patient has felt decidedly better since the operation. She can move the left arm and foot without difficulty, and can walk about.—*Lancet.*

Herbert Spencer on the Criminal Responsibility of Physicians.—"A physician who, after many years of study, has gained a competent knowledge of physiology, pathology, and therapeutics, is not held criminally responsible if a man dies under his treatment; he has prepared himself as well as he can, and has acted to the best of his judgment.

"Similarly, the legislator whose measures produce evil instead of good, notwithstanding the extensive and methodic inquiries which helped him to decide, cannot be held to have committed more than an error of reasoning. Contrariwise, the legislator who is wholly or in great part uniformed concerning these masses of facts which he must examine before his opinion on a proposed law can be of any value, and who, nevertheless, helps to pass that law, can no more be absolved if misery and mortality result, than the journeyman druggist can be absolved when death is caused by the medicine which he ignorantly prescribes."

Preservalin.—In the bright lexicon of commerce this is the name of one of a number of preparations sold to milk-dealers to enable them, by adding it to their wares, to palm off stale milk on the community. It is supposed to consist mainly of boric or salicylic acid. Ten per cent. of the milk furnished by dealers supplying Brooklyn is said to have had one of these substances added to it. The persons concerned profess that the milk is not made injurious by this procedure, but it is very obvious that it may become injurious under certain circumstances, and the State Dairy Commission is quite right in declining to leave that question to the milkmen's discretion. Certainly the community has a right to be protected from surreptitious drugging.

The Banker and the Surgeon.—One of the Rothschilds, a London banker, sent for the celebrated surgeon, Liston, but at the sight of the surgical instruments his heart failed him, and he asked Liston to call some other day. On the appointed occasion Liston returned and Rothschild submitted to the operation without chloroform or a murmur. The operation over, the banker turned around and looking at the surgeon in a phlegmatic manner, remarked: "You think I am going to pay you for making me suffer. Do not deceive yourself. This is all you shall have to remember me by!" and he threw a dirty old night-cap at the surgeon. Liston laughed, and picking up the night-cap, put it in his pocket, and bade his patient adieu. Descending to his carriage, Liston opened the night cap, and pulled out an Israelite's check. It was Rothchild's, payable to Liston, for the sum of five thousand dollars.—*Cin. Lancet and Clinic.*

Kemmler, the murderer, whose case is well and widely known in connection with the new law compelling capital punishment in New York to be made by electricity, met the penalty of his crime as the law directs on the 6th inst. After the electrical current had been continued for seventeen seconds, he was pronounced dead, and the current turned off. Signs of respiration reappearing—which, however, were probably due to spasmodic reaction of the diaphragm and muscles of the chest—the current was again applied, and in thirteen minutes from the first application he was again declared dead. Death was then a certainty. All medical men present declared the criminal must have lost consciousness with the first shock; nevertheless, they are at present indulging in an unseemly wrangle regarding the effects of electricity and the results of its application in this case.

The Cremation Congress.—An International Congress on Cremation was opened at Berlin, on August 4th, by Herr Matterne, a member of the Berlin Town Council. Many foreign delegates were present.

A resolution was passed expressing the hope that the Governments which had hitherto been adverse to cremation would recognize the pernicious effects of the present method of disposing of the dead, and would consent to cremation being made optional. A telegram was sent to the German Emperor, at Cowes, respectfully expressing a hope that he might be induced to take up a different attitude with regard to cremation from that which he had hitherto maintained. It was also decided to send a telegram to Signor Crispi, the Italian Premier, thanking him for his sympathy with the movement.

Microbes in Hailstones.—Truly in the midst of life we are in death. A recent number of the British Medical Journal states that Dr. Fontin, a Russian observer, has demonstrated the existence of pernicious microbes of terrestrial origin, in hailstones. He has found that the water produced by the melting of the hailstones used in the experiments, yielded an average of 727 bacteria to the cubic centimetre. The fungi of yeast and mold were absent, but nine different bacteria were discovered, including the *Bacillus mycoides.* As the abiding place of this bacillus is the earth, the fact that it and its pestilential congeners can be carried to the heavens and returned here with hail, rain, and snow, and directly convey infection, is another of the discoveries which, while adding perchance to the glories of science, show the blissfulness of ignorance.

The Recompense of Retaliation.—One day Hahnemann, the patron saint of homœopathy, received a visit from a sick English lord. Without examining the patient or hearing any explanation, Hahnemann pulled out a small vial and passed it under the astonished Englishman's nose. "Inhale that," said he, "and you will be cured." The Englishman rose and said stiffly: "How much do I owe you, sir?" and Hahnemann responded: "One thousand francs, sir." The Briton calmly drew a note from his purse, and, passing it under the doctor's nose, said; "There, inhale that. Now you are paid!"—and walked out in unruffled dignity, leaving the great imposter to his own meditations.

Kuro-moji Oil.—A Leipzig house reports that this oil is said to have come rapidly into favor, the odor recalling that of lign-aloe oil, but being far more agreeable and aromatic. It is derived from a lauraceous plant, *Lindera sericea*, Bl., named "kuro-moji," on account of the blackish color of the bark; another variety is called "shiro-moji" because of its grayish white bark. In both kinds the white pith is surrounded by a grayish-white, silky-looking wood, having an agreeable odor. This wood, which in transverse section shows delicate medullary rays, distinct annular rings, and very fine pores, is the bearer of an essential oil.

Abdication.—

When microbes in the field had been clearly detected,
And Lister had taught us how wounds were protected;
Then stepped down and out, without wrangle or fuss,
That once honored monarch, *old laudable pus.*

And thus, too, the medical man of the past,
When he looks at this age, of methods so fast,
Must throw up the sponge, and as gracefully yield
To the *specialist* hosts who have taken the field.

DR. C. M. FENN.

SAN DIEGO, CAL.

A New Alkaloidal Reagent.—M. Brociner finds that sulpho-tellurate of ammonium in solution in sulphuric acid, gives characteristic colors with certain alkaloids. Thus with digitalin it gives a reddish violet tint, gradually becoming more intense; with chelidonine it gives at first no reaction, but in a few seconds a green color becomes apparent, becoming more pronounced in about four minutes; with apomorphine it gives a violet color; with narcotine a fugitive rose tint; and narceine becomes first yellow, passing to a dirty green, finally turning to violet.—*British and Colonial Druggist.*

Gratuitous Medical Advice.—A certain very rich and avaricious man conceived the idea of receiving gratuitous advice from the English doctor, Abernethy. For this purpose he invited the physician to a dinner party, and in the course of ordinary conversation he insinuated his own case by remarking: "Doctor, suppose a man has symptoms—thus and thus. What would you advise him to take?" And Abernethy answered: "I should advise him to take medical advice."—*Edgar Poe.*

Antiseptic Duelling.—In a recent duel with small swords, just as the principals were in position, a loud voice exclaimed: "One moment, gentlemen!" At the same instant a surgeon sprang forward with a bottle in his hand. This surgeon was imbued with modern ideas, and taking the swords he dipped their points in a solution of phenic acid, remarking as he handed them to the duelists: "Gentlemen, you may now kill each other without danger of purulent infection!"

Women Doctors.—Women who practice medicine suffer from inconveniences at times, as for instance. A man rang the door bell of a female physician at night, crying: "Quick! Tell the doctor to hurry, as my wife is about to be confined." Then the husband of the female physician, who had opened the door, responded: "It is impossible for the doctor to go at this moment. She is about to be confined herself."

To Render Fabrics Uninflammable.—A French Commission, after a long investigation, recommends (according to Le Génie Civil) as a simple and efficacious method of rendering textiles non-inflammable, that they be soaked in a 10-per-cent. solution of ammonium phosphate.

Diogenes when asked how to dine replied: "If thou art rich, dine when you please; if thou art poor, eat when thou canst."—*Deschanel.*

"Life is a railroad: the years are the stations, the engineers are our doctors, and the terminus is death."—*Le Figaro.*

Therapeutic Brevities.

Hot Enemata in Typhoid Fever.—Following the suggestion by Professor I. T. Tchüdnovsky, Dr. Theodor K. Geissler, of St. Petersburg, (Vratch, No. 22, 1890), has undertaken an experimental inquiry into the action of hot enemata on patients suffering from enteric fever. In all, five cases (males, aged from fifteen to twenty-nine years) were selected for the purpose, each experiment lasting eight days, and being divided into two periods of an equal duration, during one of which the patients received daily (at 11 A. M.) an enema of one quart of water at 105.5° F. The essential results of the researches are as follows:

1. Hot enemata manifest a very favorable influence on the intestinal tract in typhoid fever. In cases of diarrhœa, they markedly diminish the frequency of stools and improve their quality, the fæces becoming less fluid. The injections also relieve abdominal pain, and produce a beneficial action on constipation when present.
2. Immediately after an enema, the bodily temperature, as a rule, slightly rises. When examined an hour later, the temperature proves to be the same as, or even lower than, the temperature before the enema.
3. In the long run, the injections seem to promote defervescence, or, at least, the transformation of a continuous fever into a remittent or intermittent one.
4. Immediately after an enema, the frequency of the pulse commonly somewhat decreases, to increase at the end of an hour. At the same time, the pulse becomes firmer and fuller, its dicrotism less pronounced, and the cardiac contractions more vigorous.
5. The respiration usually quickens, but becomes slower in an hour or two.
6. The blood pressure distinctly rises.
7. The daily amount of urine increases, while the specific gravity sinks.
8. The enemata are invariably perfectly well borne, the patients being rather pleased with them, and a sensation of well-being always follows. As a rule, the injection is retained by the patient from twenty to thirty minutes.

The Treatment of Chronic Diarrhœa.—To give the diseased parts rest, the author gives meat broths and sterilized milk, in small amounts five or six times a day.

To check abnormal fermentation he has employed in different cases subnitrate of bismuth, carbolic acid (gramme 0.035 at a dose). Beta naphthol (gramme 0.035 to 0.07), salol (gramme 0.17 to 0 35), or thymol (gramme 0.13). He does not express his preferences.

He prevents fæcal accumulation by cool enemata and perhaps occasional doses of rhubarb or cascara.

Pain can be mitigated by rest in bed, by a flannel abdominal bandage, or in bad cases by opium.

When bloody or mucous dejections pointing to a colitis occur, a rectal injection, with a long soft tube, of two or three pints of cold water, containing sulphate of zinc or alum (grammes 0.07 to 16.00 or 24.00) or nitrate of silver (gramme 0.13 to grammes 497.00), can be made every day or two and allowed to come away at once.—*Boston Med. and Surg. Jour.*

Naregamia Alata.—This new expectorant (see Quarterly Therapeutic Review, No. 30, page 219), which in the hands of Dr. Stefan Schœngut, has yielded results sufficiently definite to warrant further trial, is used in the form of a tincture, obtained by extracting the outer layer of the skin of the plant with alcohol. The plant is a native of Goa; it is a small shrub, with somewhat pendant branches and triple-pointed leaves; the flowers are white and elongated, and about one inch in length. The active principles are in greatest quantity in the cortex of the branches; this, rubbed up, yields a light brown powder of pungent aromatic odor and nauseous taste. There are present in the powder an alkaloid, oil, sugar, resin, and other bodies. The alkaloid (*Naregamine*, Hooper) is the active principle; it is obtained as an amorphous powder from the ethereal extract of the crude drug, but forms crystalline salts with sulphuric, nitric, and hydrochloric acids. There is no tannic acid in the plant. In India the plant is used as a household remedy in bilious troubles. Dr. Bidie, of Madras, has tried the drug in dysentery and in respiratory affections. It is suggested that Naregamia in some respects resembles emetine, and that the freer secretion results from a direct action upon the glands of the bronchial tubes. The alimentary tract is unaffected, though in one case there was some vomiting. The urine is unchanged. The unpleasant odor of the tincture is covered with aqua laurocerasi. The dose was one to three grains (about fifteen to forty-five minims) in the day.

Action of Curare and Alkaloid.—All observers are agreed that Curare paralyzes the motor nerve-endings in the voluntary muscles, but a wide divergence of opinion exists in respect to its action on the sensory nerves and central nervous system. To decide this question, Dr. Joseph Lillie, of Edinburgh, undertook a series of experiments with the pure alkaloid *Curarine*, on frogs in which the hind limbs were ligated (the lumbar nerves being left free) to exclude them from the action of the alkaloid. He sums up the results obtained as follows:

"It may safely be concluded that Curarine acts in the same way, though much less powerfully, on the extreme periphery of the vascular nerves, as upon that of the motor nerves; and that this action is the sole cause of that lowering of the blood pressure, which, varying in degree and duration according to the dose, is produced by the drug. In the rabbit, the dose by which the vaso-motor nerves are for a time completely paralyzed, is from 100 to 300 times as great as that which produces universal paralysis of the voluntary muscles."

Dr. Lillie adds a note upon Curarine, the alkaloid found by Boehm in 1886. It is a heart-poison, and the effects of Curare upon the heart, observed by various authors, were doubtless due to the presence of Curarine in the samples employed.—*London Med. Recorder*, June 20th, 1890.

On the Action of Gelsemium in Some Local Spasms and Neuralgias.—This article is chiefly interesting because of the large amount of the drug taken. Well marked physiological, but no toxic, effects were produced.

The patient was a woman in whom a clonic spasm of the muscles supplied by the spinal accessory nerve followed a fall from a wagon.

For three weeks, from January 31st to February 21st, this patient took for the greater part of the time twenty-six drops or thirteen minims of tincture every two hours night and day. For another part of this time, alternately, either thirteen minims, or seven and a half minims every two hours, or about this amount. For the remaining forty-seven days she took about thirteen minims eight times daily. The average taken daily, when the maximum amount was administered, was about one hundred and fifty-six minims. During three weeks, from January 31st to February 21st, she probably took between five and six ounces, and during the last forty-seven days in all 4,888 minims, equal to eighty-one ounces.

Very marked improvement but no complete cure resulted.—*Jour. Nerv. and Ment. Diseases.*

Arsenite of Copper in Diarrhœa.—Branch Clark, M.D., in the New York Medical Record, calls attention to the value of Arsenite of Copper in the treatment of diarrhœa, dysentery, cholera morbus, and cholera infantum. He states: "I have not lost a single patient with cholera infantum since I began to use it. It is given largely diluted with water, and is not at all disagreeable to take. I have used it it about thirty times within a few weeks without a single failure. It is put up in tablets of $\frac{1}{100}$ of a grain, one of which is to be dissolved in four ounces of water, and a teaspoonful of the solution (containing $\frac{1}{3000}$ of a grain) taken every fifteen minutes for the first hour, and then every hour until relief is obtained. For children proportionally smaller doses are used. I feel sure that Arsenite of Copper may be made to reduce the mortality by cholera infantum as bichloride of mercury has reduced that by diphtheria.

Lupus and Peru Balsam.—Dr. W. Beck presented a patient before the Nürnburg Medical Society last week who had lupus over a great part of the under extremities. The patient had been to Vienna in 1877, where he attended hospital for several years, during which time he was blistered, cauterized, and scraped with a dermic gouge, but with little benefit. In November, 1889, the patient came to him, whereupon he removed all the new growth with the "dermic shovel" and Paquelin cautery, and dressed the fresh wound with Peru balsam, which he applied on boracic lint with antiseptic bandages!! It was dressed every second day, later every fourth day. He had now left the hospital, perfectly cured. Tubercular bacilli could not be found in any of the overgrowth removed from the wounds, nor could they be found in the sputa.—*Med. Press.*

Hot Water for Sleeplessness.—A most wretched lier-awake of twenty-five years' standing, who for ten years thought himself happy if he could get twenty minutes sleep in twenty-four hours, said: "I took hot water—a pint, comfortably hot, one good hour before each of my meals, and one the last thing at night—naturally unmixed with anything else. The very first night I slept for three hours on end,

turned round and slept again till morning. I have faithfully and regularly continued the hot water, and have never had one bad night since. Pain gradually lessened and went; the shattered nerves became calm and strong, and instead of each night being one long misery spent in wearying for the morning, they are all too short for the sweet, refreshing sleep I now enjoy."

Cactus Grandiflorus in Heart Disease.—Dr. Orlando Jones publishes his experience of Cactus Grandiflorus, which he claims is likely to prove a useful adjunct to our resources, especially in asthenic conditions of the heart. Digitalis, strophanthus, and convallaria are not always reliable in the varied conditions of the heart with which we daily meet. The action of digitalis is not infrequently disappointing when we are dealing with a feeble heart, especially if that feebleness is excessive and of long duration. In such instances Cactus Grandiflorous may fill a gap where other remedies appear to be lacking. The action of this remedy seems to be the very opposite of that of digitalis, that is, in the final stage it strengthens the heart.—*Brit. Med. Jour.*

Treatment for Agalactia.—Dr. Messinger has used the following treatment successfully in cases of agalactia: Daily massage of the mammary glands; aloes in divided doses; cold sponging and friction of the mammæ morning and evening. After the third application of the massage he noticed a bluish network of vessels on the anterior surface of the thorax; after the sixth, milk could be pressed out from the nipples, and after the sixteenth the flow of milk was usually fully established. The massage was applied by carefully stroking the gland, from the nipple centrifugally in all directions, with a fine foam of soap, in order to evacuate the veins, the masseur standing at the head of the patient.—*N. Y. Medical Record.*

Pichi in Cystitis.—This remedy is highly spoken of by a number of practitioners in genito-urinary diseases, and more especially in cases of cystitis following operations, or from other causes. One of the best formulæ is that of Dr. Hal C. Wyman, as follows:

℞ Fl. ex. Pichi, grammes 32.00.
Potass. nitrat., grammes 4.00.
Simple elixir, grammes 96.00.
M. Sig.: Teaspoonful once in two hours.

Violet Mouth-wash.—The following is said to to be an excellent mouth-wash:

℞	Tincture of benzoin,	7	parts.
	" " rhatany,	30	"
	" " myrrh,	60	"
	" " orris root,	500	"
	Almond water,	250	"
	Alcohol,	250	"
M.			

Dr. Mortimer Granville's Hay Fever Snuff.—Powdered borax, gramme 1.25; powdered capsicum, pure, grammes 0.95; carbonate of ammonia, finely powdered, gramme 0.65; mix thoroughly, and place in an 8 gramme bottle. Shake well at each using.

Medical Progress.

DISINFECTION AND DISINFECTANTS.—The most useful agents for the destruction of spores containing infectious material are:

1. Fire. Complete destruction by burning.
2. Steam under pressure, 105°, C., 221° F., for 10 minutes.
3. Boiling in water for ½ hour.
4. Chloride of lime 4 per cent. solution.
5. Mercuric chloride 1-500 solution.

For the destruction of infectious material which owes its infecting power to the presence of micro-organisms not containing spores:

1. Fire. Complete destruction by burning.
2. Boiling in water for 10 minutes.
3. Dry heat, 110° C., 230° F., for 2 hours.
4. Chloride of lime 2 per cent. solution.
5. Solution chlorinated soda, diluted 1:10.
6. Mercuric chloride solution 1-2000.
7. Carbolic acid solution 5 per cent.
8. Sulphate of copper solution 5 per cent.
9. Chloride of zinc 10 per cent.
10. Sulphur dioxide. Exposure for 12 hours to an atmosphere containing at least 4 volumes (per cent.) of this gas in presence of moisture. This will require the combustion of between three or four pounds of sulphur for every 1000 cubic feet of air space.

FOR EXCRETA.

(*a*) In the sickroom.
1. Chloride of lime solution 4 per cent.
In absence of spores.
2. Carbolic acid 5 per cent.
3. Sulphate of copper 5 per cent. solution.
(*b*) In privy vaults.
1. Mercuric chloride 1-400.
2. Carbolic acid 5 per cent. solution.
3. Sulphate of copper 5 per cent.
(*c*) For the disinfection and deodorization of masses of organic material, privy vaults, etc.: Chloride of lime in powder.

FOR CLOTHING, BEDDING, ETC.

(*a*) Soiled underclothing, bedding, etc.:
1. Destruction by fire if of little value.
2. Boiling of for ½ hour.
3. Immersion in a solution of mercuric chloride of the strength of 1-2000 for 4 hours.
4. Immersion in a 2 per cent. carbolic acid solution for 4 hours.

(*b*) Outer garments of wool or silk, and similar articles which would be injured by immersion in boiling water or in a disinfecting solution:
1. Exposure in a suitable apparatus to a current of steam for 10 minutes.
2. Exposure to a dry heat at a temperature of 110° C., 230 F., for two hours.

(*c*) Matresses and blankets soiled by the discharges of the sick:
1. Destruction by fire.
2. Exposure to superheated steam, 105° C., 221° F., for 10 minutes.

Matresses to have the cover removed, freely opened, immersion in boiling water for ½ hour.

Furniture, articles of wood, leather and porcelain, washing several times repeated with:

1. Solution acid carbolic 2 per cent.

FOR THE PERSON.

The hands and general surface of the body of attendants of the sick and of convalescents should be washed with:

1. Solution of chlorinated soda, diluted with 9 parts of water, 1-10.
2. Carbolic acid solution 2 per cent.
3. Mercuric chloride 1-1000.

FOR THE HEAD.

Envelope in sheet thoroughly saturated with:

1. Chloride of lime solution 4 per cent.
2. Mercuric chlor. solution 1-500.
3. Carbolic acid solution 5 per cent.

FOR SICK ROOMS AND HOSPITAL WARDS.

(*a*) While occupied wash all surfaces with:

1. Mercuric chloride 1-1000.
2. Carbolic acid solution 2 per cent.

(*b*) When vacated, fumigate with sulphur dioxide for twelve hours, burning at least three pounds of sulphur for every 1000 cubic feet of air space in the room, then wash all the surfaces with one of the above mentioned solutions, and afterwards with soap and hot water; finally throw open the doors, windows and ventilate freely.

GENERAL DIRECTIONS.

In cholera, diphtheria, yellow fever, scarlet fever, tuberculosis, all vomited matter and sputa should be disinfected or destroyed by fire.

It seems advisable also that the urine should be disinfected.

Chloride of lime or bleaching powder is entitled to the first place for disinfecting sputa, on account of the rapidity of its action.

The following standard solution is to be recommended:

Dissolve chloride of lime of the best quality in pure water, six ounces to the gallon.—*The Trained Nurse.*

BROMIDE OF GOLD IN EPILEPSY.—In 1888, Dr. Goubert, of Paris, published some observations relative to the efficacy of Bromide of Gold in epilepsy. He described eight cases of this intractable malady, which had been apparently cured by the internal administration of this drug. He claimed that the remedy proved effective in comparatively very small doses, not exceeding one-sixth of a grain. He also stated that the drug was free from all those unpleasant effects which so frequently interfere with the continued use of the other salts of bromine.

In the Proceedings of the St. Petersburg Society of Psychiatrists, a case of hysteria gravis is recorded, in which the auric salt of bromine proved highly beneficial, after many remedies had signally failed. Professor Danillo, also of St. Petersburgh, has recently published a number of cases in most of which Bromide of Gold in doses of one-fifth of a grain, was likewise promptly efficacious in suppressing epileptic seizures. A further favorable report concerning the use of this remedy is given by Professor Rosenbach, of St. Petersburg. Bromidism was not observed by any of these physicians, even when the drug was administered continuously for a long time.

Acting on these favorable impressions, Dr. Alexander E. Shtcherbak, of Professor Mierzejewski's laboratory (Vratch, No. 9, 1890), has recently undertaken a fairly long course of experiments on dogs with exposed cortical motor area, the principal point being to study antiepileptic effects of the drug in comparison with bromides of potassium and sodium. The Gold salt was introduced either under the skin, into the femoral vein, or into the stomach. The essential results may be condensed somewhat as follows (London Medical Record):

1. Bromide of Gold undoubtedly inhibits the cortical motor centres, and that too even when administered in far smaller doses, comparatively, than the other bromides.

2. The most marked effects are observed when the drug is injected into veins, when even 0.005 gramme per kilogramme of body weight totally inhibits the fits.

3. Irritability of individual motor centres, as determined by the appearance of contractions in corresponding muscular groups, is depressed by Bromide of Gold in a but trifling degree.

4. Excitability of the white substance of the motor region remains intact.

5. The drug seems to affect mainly the tracts of communication between individual motor centres as well as between the latter and remote areas of the cerebral cortex.

6. It does not appear to possess any particular cumulative action comparatively with the other bromides.

7. Of accessory effects there are observed only vomiting (very rarely, and that solely on internal use) and some depression of pathic sensibility only on the use of larger doses, such as 0.15 gramme per kilogramme of weight; even prolonged administration never gives rise to unsteady gait, general depression and languor, and emaciation, all of which symptoms are observed in the case of bromide of potassium.

8. The physiological effects of Bromide of Gold (and their being different from those of the other bromides) cannot possibly be attributed to the proportion of bromide present therein, since the strongest of the three, Bromide of Gold, contains the smallest amount of bromine (55 per cent. by weight), while the weakest of them, bromide of sodium, shows the richest proportion of the element (77.7 per cent.), the potassic salt standing midway with 67.2 per cent. of bromine.

With so much testimony in favor of Bromide of Gold, it seems reasonable to bespeak for it a further trial by clinicians. Even if only a part of the claims made for it will be realized, we may confidently add the drug to the list of those remedies that may be used, alternately with other salts of bromine, to subdue the many conditions associated with exaggerated cerebral activity. In true epilepsy it may be found to be at least as serviceable as most of the remedies at our command.

SYMPATHETIC OPHTHALMITIS. — Although sympathetic ophthalmitis is most disastrous in its results and little amenable to treatment, the uncertainty whether it will, in any given case, result from an injury capable of producing it, often makes a surgeon hesitate to urge

that which has hitherto been considered the only certain preventive, namely, enucleation of the injured eye, and this is especially the case when the injury is not of such a nature as entirely to destroy vision. When vision has been obviously rendered impossible in the injured eye, enucleation is the almost universal practice in this country.

During the last decade much more definite views have obtained as to the pathology of sympathetic affections, and the theory that true sympathetic inflammation is of septic origin and due to transmission of microbes to the second eye through the lymph spaces of the optic nerve and chiasma, has been generally accepted, but there does not appear to have been any corresponding change in practice. Indeed, it seemed that modern pathology had but endorsed the ancient practice which had been arrived at empirically, for if the injured eye formed a nidus for the propagation of these nefarious micro-organisms, surely the reasons for its removal at the earliest possible moment were the more cogent.

M. Abadie, however, in a paper in the current number of the *Annales d'Oculistique*, maintains that the propagating power of the microbes may be destroyed within the eye and the necessity for enucleation thus avoided. It is not unlikely that in France these views will obtain wide acceptance, for there has always existed there a much greater prejudice against enucleation than in this country;* a shrunken, misshapen, and repulsive-looking organ generally being preferred to an empty socket. This may in part be due to the fact that French surgeons do not hesitate to allow an artificial eye to be worn over such a stump, while in this country such a proceeding has generally been considered likely to excite sympathetic trouble in the other eye. It is beyond the scope of this article to inquire how far the recognition of this distinction between sympathetic neurosis and ophthalmitis calls for a reconsideration of this view.

The plan proposed by M. Abadie is, when the case is seen early, to cauterize the wound very freely with the Galvano-cautery, and to dress it antiseptically. If the case is seen later, when inflammation has already been set up in the injured eye, presumably by the germination of microbes, he proposes to sterilize the eye by injecting into it a few drops of solution of corrosive sublimate (1 in 1,000). This sets up a rather severe irritation, and he believes that it destroys the propagating power of the microbes; in fact, he appears to consider it as efficient a safeguard as excision, and when the second eye has become affected he adopts a similar treatment for it, but is careful to inject an exceedingly minute quantity.

We much doubt whether these views will be confirmed by a wider experience. There can, of course, be no doubt as to the advisability of a thoroughly antiseptic treatment of recent perforating wounds of the globe, and it is almost certain that if applied sufficiently early it would prevent the occurrence of sympathetic inflammation; but when germs have already entered and inflammation excited, it is difficult to believe that any agent which does not totally destroy the tissues can be absolutely relied upon to sterilize them; and if the injured eye has been destroyed we ought not to rest content with placing the other eye in a condition of comparative safety only, when we possess in immediate enucleation the means of rendering it absolutely secure. If the patient refuses his consent to enucleation, evisceration with antiseptic irrigation of the scleral cavity, probably stands next in point of safety, and no doubt some would put it on a par with enucleation; while if Mr. Mules's modification of introducing a glass sphere is adopted, a cosmetic effect may be obtained which, on an average, would probably be as good as, or better than, that which would result from retaining a shrunken globe. Resection of the optic nerve has also been proposed as a substitute for enucleation, and has recently been rather warmly advocated in some quarters. We propose shortly to consider its claims.—*British Medical Journal.*

*The better class of oculists in America, no longer enucleate where amputation of the anterior portion of the eyeball will do as well, or even better. There is thus less deformity, and the stump is valuable as a support to the artificial eye.—Ed.

Simple Treatment for Epistaxis.—Dr. A. H. Fridenberg (Medical Record, April 19th, 1890) says: Not very long ago a man walked into my office bleeding profusely from the right nasal cavity. He had similar attacks on previous occasions, which were always very difficult to manage, and during one of them had nearly bled to death, despite the efforts of the two physicians in attendance. He had finally to be transported to the hospital, where the hæmorrhage was checked with the assistance of Bellocq's cannula. The present attack had lasted three or four hours, had resisted the usual means of treatment, and the patient declared he had lost a pint of blood. During the ten minutes or so that he had been awaiting his turn in the waiting-room, he had filled the bottom of a cuspidor to the depth of two inches with blood coagula. Despite his powerful physique—he was tall, and weighed about two hundred and fifty pounds—he showed signs of great weakness, was pale and exsanguined, and breathed with difficulty through the mouth, the nose, from which blood rapidly dripped, being stopped up with clots. I seated him and packed his nasal cavity with absorbent cotton pledgets squeezed dry from carbolized solution, but without avail; the blood oozed through the firm packing. I removed the cotton, made him blow out the blood-clots, and introduced Goodwillie's nasal speculum, but failed to recognize the source of the hæmorrhage, owing to the impossibility of wiping away the blood as rapidly as it welled up from the deeper recesses. What I did recognize, was, however, the fact that the man was rapidly growing weaker, and that he was in imminent danger of falling from the chair in a swoon. There was but one thing to do, and that to cork up his nasal passages, anteriorily and posteriorily, without loss of time. I had no Bellocq's cannula, however, and there was no time to procure one. In this predicament I bethought me of a simple substitute, which served so well that the hope that it may render the same service to others, under the same embarrassing circumstances, must be my excuse for presenting this account of an otherwise very uninteresting experience. I had some rubber drainage-tubing,

of assorted sizes, on hand, from which I selected a piece of small caliber, but of sufficient resiliency, about the thickness of a parlor-match, and about ten inches in length. One end of this I introduced into the right nasal cavity, and pushed it along the floor of the inferior meatus through the clots, until it reached the pharynx, whence it curled forward within easy reach of forceps, by which it was drawn out at the mouth, meeting the other end projecting from the nose. The subsequent steps were similar to those employed after the passing of the Bellocq cannula. To the mouth end of the tubing I attached a small, compact wad of elastic lamb's wool, rolled in iodoform gauze, and, drawing upon the nasal end, slipped the wad into the post-pharyngeal space and stretched the tubing until the cessation of all trickling of blood down the post-pharyngeal wall showed the post-nasal aperture was occluded. Still keeping the tubing tightly drawn to its full extent, I rapidly packed the anterior nasal recesses with long strips of iodoform gauze to just within the nostril, all around the tubing. I now tied a knot in the rubber, close to the exit at the nostril, and through it passed a cross-piece of tubing of somewhat larger caliber, just long enough to fit easily inside the nostril. Finally, releasing the end of the rubber, its elasticity caused it to fly back, so that the knot and cross-piece rested upon and firmly held in place the anterior gauze packing. The nasal cavities were thus firmly occluded at both outlets, without any external evidence of the tampon, or any unsightly bulging of the soft parts of the nose. The elastic tubing was at just sufficient tension to support the packing without the least discomfort to the patient. After forty-eight hours it was easily removed, without recurrence of the hæmorrhage, by slightly drawing the knot out of the nostril and cutting the tubing just behind it.

Treatment of Blenorrhagia in the Female.—Schmitt (Revue Méd. de l'Est, No. 19, 1890) points out that the seat of gonorrhœa in women varies with their station. Thus, in prostitutes who undergo regular examination, the urethra and neck of the uterus are nearly always affected; in clandestine prostitutes, having recently become infected, the urethra, vagina, and uterine neck are implicated; in the woman who comes of her own accord to the doctor because she feels something the matter, there is usually urethritis and vulvo-vaginitis. Vulvitis is only observed in recent cases, and quickly gives way to treatment. Erosions may be touched with a 1-to-30 nitrate of silver solution. Applications of 1-to 1000 bichloride may cause the inflammation of a beginning Bartholinitis to disappear. Nitrate of silver should also be used to destroy the crypts and glandular follicles about the urethra and fourchette.

Vaginitis, the author believes, may occur as a morbid entity, as well as secondary to urethral and uterine gonorrhœa. A special treatment is called for, of which antiseptics form the base. In the subacute period, an antiphlogistic and emollient medication is indicated; when the inflammation has moderated, irrigation should be practiced two or three times daily with 1-to-10,000 biniodide solution; then the vagina should be packed with cotton soaked in an iodoform glycerin, and, later on, tannin should be sprinkled over the parts. In ten or fifteen days the vaginal discharge will have disappeared.

In *urethritis* the balsamics are ineffective, while local treatment is more successful than in the male. A stick of nitrate of silver, passed over the first half of the canal, will often serve to arrest the disease in its incipiency. Later on, a 1-to-50 solution can be instilled daily. In chronic cases the whole length of the canal can be cauterized with the silver stick.

Metritis often remains after the disease has been elsewhere cured, and is often a source of re-inoculation of the neighboring parts. Usually the neck alone participates in the inflammation, but at times the uterine body is affected, especially when it has been enlarged from pregnancy. Curetting the uterus, and subsequently using parasiticide injections, may be attempted in rebellious cases, but the vast majority will get well after cautery of the interior with the nitrate of silver stick, carried as high up as possible and repeated several times. When there is ulcerative metritis, the ulceration is treated with the silver at the same time, and then covered over with salol, which has a very marked action on affections of the neck, blenorrhagic and other.

Along with local measures, a general treatment should be carried out.—*Journal of Cutaneous and Genito-Urinary Diseases*, July, 1890.

New Methods of Treatment in Erysipelas.—1. *Method of Rosenbach.*—Consists in first washing with soap not only the affected part, but the surrounding healthy skin, then applying each day a solution of carbolic acid (5 per cent.) dissolved in absolute alcohol. Results, very brilliant as regards both the progress of the malady and the febrile phenomena. The use of absolute alcohol by itself has also produced favorable results.

2. *Method of Nolti.*—The affected parts and surrounding skin are covered twice daily with mucilage of gum Arabic, mixed with from 3 to 5 per cent. of carbolic acid. Good results. Dr. Ebstin mixes the carbolic acid with vaselin.

3. *Method of Koch.*—By means of a soft brush, we apply a thin and regular covering of the following pomade:

℞ Creolin, gramme 1.00.
Iodoform, grammes 4.00.
Lanolin, grammes 10.00.

The parts are then covered with leaves of guttapercha. This has given good results, especially in erysipelas of the face and head.

4. *Method of Nussbaum and Brunn.*—Ichthyol with or without collodion. Results favorable, and very prompt.

5. *Method of Hallopeau.*—A solution of one to twenty of salicylate of soda is soaked in a mask of several thicknesses of linen and applied over the parts, after which it is covered with rubber bands, to prevent evaporation. Relief almost immediate; cure in from three to five days.

6. *Method of Hueter.*—Injections of carbolic acid in the healthy skin, in doses of from ten to fifteen grammes, distributed in several punctures, at one or two centimeters from the edge of the affected parts, with the following solution, recently prepared:

℞ Carbolic acid (pure),
Absolute alcohol, ää grammes 3.00.
Distilled water, grammes 94.00.

Very painful. Only applicable in severe cases of the head or face.

7. *Method of Kraske.*—Scarify the edges before application of the antiseptic substance. Dr. Lawenstein advises that the incision should be made exclusively in the healthy skin, after which the parts are enveloped with a solution of carbolic acid or sublimate.

Method of Wolfler.—Mechanical compression by means of adhesive plaster applied on the healthy skin on the borders of the affected parts, so as to completely surround them.—*Le Bulletin Medical.*

THE APPLICATION OF THE VICHY WATERS.—Dr. Durand-Fardel says that in gout the results to be expected, namely, diminution in severity and postponement of the attacks, are better assured, the more robust and healthy the constitution of the patient, and the earlier the attack is anticipated by beginning the treatment. In uric acid gravel, cessation or amelioration of nephritic colic is accomplished, provided the kidneys are intact. The calculi become smaller or even disappear, and thus are eliminated without provoking painful symptoms. Visceral obesity, that is to say, of the chest or abdomen, is very positively relieved. The effect is less pronounced upon the accumulation of fat in the peripheral regions. In diabetes, especially in alimentary diabetes and in those forms associated with obesity, rapid improvement of all the symptoms is effected, together with a considerable reduction or disappearance of the glycosuria. A subsequent reappearance of the latter symptom in constitutional diabetes does not in general reproduce the previous disturbance of health, which may perhaps remain in a satisfactory condition for a very long time, provided the treatment is repeated occasionally. In biliary calculi and hepatic colic, considerable improvement is the rule, and frequently a complete cure is obtained. The same is true in simple congestion of the liver, chronic hyperæmia, and the early stages of cirrhosis of alcoholic or malarial origin, or dependent upon venous stasis of the abdominal viscera. In malarial cachexia or in that observed in warm climates, in the intestinal catarrh of warm climates and the sequelæ of dysentery, the waters act beneficially, also in dyspepsia of the atonic variety or that caused by insufficient secretion of the gastric or intestinal glands. A resolving action is exerted upon most of the congestions of the abdominal or pelvic regions, with the exception of scrofulous adenitis, on congestion of the spleen, and on simple congestion of the walls of the stomach (and also on simple ulcer of this organ), on such intra-abdominal tumors as are capable of undergoing resolution, on iliac and circum-uterine abscesses, and also on congestion of the uterus.—*N. Y. Med. Jour.*

STRUMOUS DISEASES OF CHILDHOOD IN RELATION TO TUBERCLE.—The increasing proportion of strumous and tubercular affections which has been observed of late years in my wards in the Children's Hospital, Dublin, is probably largely ascribed to the faulty dietetic and hygienic management of early childhood, and to the general substitution of artificial, and in many instances very unsuitable, preserved or tinned preparations, for that natural or fresh milk which in my opinion is essential for the healthy nutrition of children. The acute forms of tuberculosis, common during childhood, resemble the infective diseases in their origin from a specific germ, whether generated in the body or introduced from without. The latter is probably the case in the tubercular diseases prevalent amongst the children of the poor in whose dietary various forms of preserved milk foods now enter largely, as it seems difficult to conceive any certain guarantee that the cows furnishing the supply may not, in some cases, suffer from *perlsucht**, this disease being very prevalent and not materially affecting the quantity of milk. More recently Professor Bollinger has shown that milk may prove infectious whether taken from cows suffering from general or local tuberculosis; in his experiments only a few drops of undiluted milk from a tuberculous cow, proved sufficient to produce miliary tuberculosis in animals. Be the pathogenesis of tuberculosis what it may, however, there can, I think, be no question as to the fact that it is most frequently developed in patients who bear in their general constitutional condition, and more especially in their glandular system, the obvious imprint of the strumous diathesis. Nor is it to be wondered at, that in children thus constitutionally enfeebled, the struggle for existence between the invading specific micro-organisms and the blood corpuscles or leucocytes, should almost invariably so speedily terminate in the fatal victory of the prolific bacilli of tubercle.—*Abstract of a paper by Thos. More Madden, M. D., read before the British Medical Association, July*, 1890.

SUCCESSFUL BRAIN GRAFTING.—W. G. Thompson, who has made numerous experiments in transplanting a piece of brain tissue from one side of an animal's brain to another, or from one animal's brain to another, says:

1. There is complete union, through organized connective tissue, of the contiguous portions of the two brains.

2. After seven weeks the cat's brain still maintained enough vitality to be distinctly recognized as brain tissue.

3. Brains of animals of two very different species were thus made to unite.

4. The pias of cat and dog present perfect union as well.

5. There is a sympathetic degeneration of the corresponding convolutions upon the opposite side of the dog's brain. For this curious fact I cannot account. I have never noticed it before, in as many as fifty operations upon this region of the brain of cats and dogs, although I have sometimes seen removal of a part of the occipital region result in extensive softening of the entire hemisphere of the same side. The opposite degeneration in this case may possibly be a mere coincidence; if so, it is a very unusual and remarkable one. There was no meningitis to favor it.

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* Murrain.—ED.]

6. There was descending secondary degeneration of the dog's brain on the side of the graft, as is usual in cases of simple excision of brain cortex; hence the cat's cortex had not succeeded in acting as a nutrient centre for the dog's brain. (The microscopic specimens showing the line of union of the two brains, were shown to several competent microscopists, who indorsed their appearance as herein described, so that there can be no question of the accuracy of the observation.)

I think the main fact of this experiment—namely, that brain tissue has sufficient vitality to survive for seven weeks the operation of transplantation without wholly losing its identity as brain substance—suggests an interesting field for further research, and I have no doubt that other experimentors will be rewarded by investigating it.—*N. Y. Med. Journal*, June 28th, 1890.

Indications for the Use of Glycerin Injections and Suppositories.—The observation of the effects of glycerin injections and suppositories in a large number of patients has led Dr. Polubinski (Deutsche Medizinal-Zeitung, June 19th, 1890) to the following conclusions:

There is no doubt that glycerin irritates the mucous membrane of the rectum. This is shown both subjectively in the burning produced by it, and objectively by the ascending of the murcurial column of the thermometer, if pushed deep enough into the intestine.

The increase of temperature and the desire to defæcate are of but short duration, and the latter may often be overcome voluntarily by the patient. The irritation of the mucous membrane produces no local secretion, since the fæces, evacuated as a consequence of injections of glycerin, are only covered with glycerin. The author obtained the best results when the rectum and sigmoid flexure are filled with scybala. If fæces collect in the upper parts of the intestinal tract, glycerin is then inefficacious. According to the author, therefore, the cases in which glycerin enemata and suppositories are indicated are: *First*, when the fæcal masses are already in the rectum: *Second*, when they are in the parts of the large intestine immediately above, as occurs so often in lying-in women: *Third*, in diseases or physiological conditions which produce mechanical pressure on the rectum or sigmoid flexure, such, for example, as new formations in the pelvis, pregnancy, etc.: *Fourth*, in scrofulous children: *Fifth*, in persons who, although they may daily succeed in having evacuations of the bowels, yet in whom the act of defæcation is only accomplished with difficulty and accompanied by pain, and in whom in general the fæces are of excessive density.—*Therapeutic Gazette*, Aug., 1890.

Cystitis in Women.—Of all the diseases which come before us in gynæcological practice, there is none more frequently met with, more distressing in its effects, or more intractable to the means generally relied on for its relief, than cystitis in women. I therefore desire to bring under notice a method of treatment which I have found, by clinical experience, to be generally successful in the rapid curative treatment of this condition. The measures most commonly employed in such cases are merely palliative, and may relieve, but *per se* can never cure well-established cystitis in women. Nor am I aware of any method by which that can be accomplished save by giving the bladder absolute physiological rest. For this purpose Dr. Emmet's operation, *i. e.*, the establishment of an artificial vesico-vaginal fistula, may be successfully employed in some instances, but the practical objections to it are so great and obvious that for several years past I have abandoned this procedure in favor of another which I have found more generally effectual, and quite free from the disadvantages of the operation referred to. The plan which I have now employed in a very large number of cases of cystitis in the gynæcological wards of the Mater Misericordiæ Hospital, Dublin, consists firstly in the full dilatation of the urethral canal, so as to paralyze the contractility of the sphincter vesicæ and canal, and thus produce a temporary incontinence of urine; and secondly, in the direct application through the same instrument of glycerin of carbolic acid to the diseased endo-vesical mucous membrane. I may add that any pain thus caused may be prevented by the previous topical application of a solution of cocaine, and that the procedure recommended, seldom requires to be repeated more than once or twice at intervals of a week or ten days; and combined with the internal use of boric acid, rarely fails to effect a rapid cure in any ordinary case of female cystitis.—*Abstract of a Paper by Thomas More Madden, M. D., read before the International Medical Congress, Berlin, August*, 1890.

Burning Sulphur in the Sick Room.—The practice, often prevalent, of burning sulphur in the sick-room, or in the habitable rooms of the house, during the continuance of a case of diphtheria or other contagious disease, is productive of evil, and should never be allowed. We have often found the air almost irrespirable from this cause, practiced under the belief that the continual burning of a little sulphur would destroy the germs or poison of the disease, and thereby protect those of the household not already infected. This theory is wholly an erroneous one. Many experiments have been made, which show that the density of sulphur fumes (sulphurous acid) must be greater than can be tolerated by a human being in order to destroy the germs of disease.

The air of the sick-room, bad enough at the best, should be kept as pure as possible; it should not be vitiated by the fumes of burning sulphur. The latter acts as an irritant to the air-passages, against which the lungs protest, besides consuming some of the oxygen of the air which is so necessary to the support of life, thus doing a positive harm to the patient. Still more, it impairs the natural powers of resistance to disease, and thereby indirectly becomes an agent to bring about a condition its use is popularly supposed to retard.—*The Trained Nurse.*

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Original Articles.

THE MODERN TREATMENT OF MALADIES OF THE STOMACH.*

BY DR. PAUL CHERON.

Before touching rapidly on the principal methods of combating affections of stomachal digestion, I will briefly set forth, in accordance with recent researches, the effects of the more common medicaments on gastric secretion.

According to Chittenden, a large number of bitter alkaloids, such as quinine and morphine, tartar emetic, chlorate of potash, and sea salt, aid digestion, whilst the germicides, notably, the salts of mercury, strychnine, analgesin and acetanilid, retard it.

As a fact, the greater number of medicaments retard gastric secretion; such is the action of the majority of metallic salts, and of all the alkaloids, even to strychnine.

Arsenic, paraldehyd, thallin, however, seem to augment the digestive power. Alcohol at first impedes digestion, but quickly disappears from the stomach (Gluzinsky), and a very active secretion of gastric juice ensues; a small quantity of alcohol, about a half hour before eating, would therefore be of service. Carbonated water, tea, coffee, have little or no action.

Panow has made a special study of the action of sulphate of atropine; according to him, with patients suffering from catarrh of the stomach, atropine sulphate in doses of gramme 0.0005 to 0.0008 has no influence on the secretion of hydrochloric acid.

Abutkoff has investigated the effects of opium, morphine, and codeine. He reports that opium abates digestion and diminishes the secretion of hydrochloric acid. The secretion of pepsin is not affected, nor is that of rennet; absorption undergoes no modification. Morphine and codeine act like opium, but their action is much more feeble. He advises that opiates be given only forty minutes after eating, especially when digestion is difficult; when there is hyper-secretion of acid, they must be administered during the repast.

Herzen has experimented on a large number of substances. Reduced iron and the ferruginous salts, the chlorides, taken separately, retard peptonization. Several drops of perchloride of iron do not exhibit this action. In moderate doses, the chloride of sodium augments digestion; in large doses, according to Leresche, it diminishes the acidity, and produces a hyper-secretion of mucous without acting on the secretion of pepsin. Hence in administering the salt in injection, the acidity would remain unaffected (Further on, I give the experience of others).

Without further action on the pepsin, chloral, in doses of one to two grammes before digestion or at its beginning, impedes it and provokes a hyper-secretion of mucous. Iodide of potassium in two- to three-gramme doses has the same action, and greatly diminishes acidity when given at the beginning of a repast or during its course. Sulphate of magnesia acts only in large doses; 20 to 25 grammes render acidity slight or *nil*, and arrest digestion. A gramme of quinine taken an hour before, or during a repast, renders the acidity feeble or *nil*. Red wine contains substances unfavorable to the digestion of albuminoids, whilst the white would be less dangerous. Solution of hydrochloric acid (3.5 per 1000) administered for several consecutive days in doses of 120 to 150 grammes, did not promote digestion. In using alcohol, pepsin is not affected while the alcoholic strength of the digestive mixture does not exceed 5 per cent.; peptonization diminishes at 10 per cent., and ceases, if the proportion be increased. Calomel impedes digestion in doses of gramme 0.30 to 0.07. Analgesin, in doses of 0.20 to 0.25 gramme, has no action; a larger dose slightly diminishes peptonization. Beginning with 0.25 grammes, the salicylate of sodium has a hurtful action.

Acetate of lead, in the dose of 0.20 gramme, notably increases the acidity, and digestion proceeds well. We know the prejudicial action of alcohol on pepsin; in small doses, however, it increases the acidity (Richet). Two to nine grammes of bicarbonate of soda, given before the repast or during the first three hours of digestion, after rendering the contents of the stomach tolerably alkaline, produce a remarkable hyper-secretion of hydrochloric acid, without influencing the secretion of pepsin.

The action of chloride of sodium has been the subject of numerous investigations. If sea salt be injected into the veins of a living animal, the proportion of pepsin in the gastric juice increases (Grutzner). Girard has

*Translated by Mr. Jos. Helfman, of Detroit, for the MEDICAL AGE.

recently again studied the action of sea-salt, and observed that a large dose of chloride of sodium irritates the stomach and produces an abundant secretion of mucous, which neutralizes the gastric juice; he has not reported any results from the administration of small doses. In injections, he has noted that the large solutions cause diarrhœa, and have no effect on the digestive power of the gastric juice. On the contrary 5 to 6 grammes in 100 to 120 grammes of water provoked temporary secretion of a gastric juice very rich in hydrochloric acid and in pepsin. Common salt according to Girard, would consequently possess a peptogenic action manifesting itself qualitatively rather than quantitatively. The rectal injection of this salt constantly impedes the secretion of the gastric juice, which at the same time becomes more and more dense and more active. Solutions of 3, 5, 7, grammes of the chlorides of calcium, magnesium, and potassium, give rise, in the experience of M. Girard, to a secretion of gastric juice, very abundant, very dense, very rich in pepsin, but usually without hydrochloric acid.

We have still to cite Wolff's labors. This author has given to healthy persons 20 to 30 c.c. of cognac (50 per cent. alcohol), and noted that so long as he did not exceed 20 per cent. the acidity due to hydrochloric acid increased slightly, and that, beginning with 30 c.c., there was diminution of the acidity and of the formation of peptone. Finally, Blummenau also made careful experiments on the action of alcohol, giving 10 to 20 minutes before each meal 100 c. c. of alcohol in solution of 25 to 50 per cent. He obtained the following results: At the beginning of digestion, the acidity of the gastric juice and the quantity of hydrochloric acid are diminished, and this enfeebling of the digestion is more pronounced with persons who are not habituated thereto (effect of habit noted by Wolff). The effects of the alcohol are more pronounced, if the concentration be greater. Beginning with the third hour after eating, the quantity of hydrochloric acid is greater than in the normal state. Finally, the alcohol provokes an abundant secretion of gastric juice.

Wolff has experimented with caffeine; begin-with 0.20 gramme this alkaloid diminishes acidity and impedes the formation of peptones. Nicotine (0.01 gramme) appeared to him to exercise at first a slightly exciting influence, subsequently greatly impeding secretion.

Relative to the bitter substances, Wolff has observed nitrate of strychnine (gramme 0.01 to 0.05) augments usually the quantity of hydrochloric acid; condurango remains without action. A large number of others have stated the action of the bitter substances, and Lyon has made a resume of their labors. According to Czelcow, in large and in medium doses, they impede the gastric secretion, whilst in small doses they augment it transiently. According to Jaworski, their action is nearly *nil.* Reichmann has experimented with the centaury, clover, bitter quassia, wormwood and gentian, giving 12 grammes of the infusion in 250 grammes of water. His conclusions are as follows: There are no great differences in the efficacy of the various bitter substances. With young patients, they always produce diminution of the gastric secretion. A very active secretion takes place when the bitter substances have left the stomach, but during digestion, they do not seem to exercise any influence. Finally, the bitter infusions employed for several weeks do not determine functional troubles. Supported by the results of these observations, Reichmann recommends that the bitter substances be given when the secretory activity of the stomach is quiescent, and a half hour before eating. According to Wolff, the chloride of sodium, the sulphate of sodium, and the borate of sodium, diminish acidity, and the administration of acid when the latter is insufficient in the stomach, does not increase acidity but promotes peptonization.

According to Auguste Hoffmann, the Galvanic current, provided it be continued a sufficient length of time, and be sufficiently intense, influences the secretory apparatus of the stomach (one electrode on the back and the other on the gastric region). Secretion of the gastric juice is excited, possessing normal digestive power; sometimes the acidity is a little weak.

Treatment of hyperchlorhydria:—The treatment of gastrorrhœa is very easy, for Rossbach has shown that it may be checked at the beginning, by giving to the patient several glasses of an infusion of weak tea or simply lukewarm water. If the critical time has already begun, the ingestion of water has still the effect of diminishing the intensity. Rossbach has proposed hydrochloric acid as a preventive measure, supported by a theory which has not been established. In reality, true prevention lies in removing the causes of the malady. The treatment of chronic hyperchlorhydria has been formulates in all its details by MM. Lyon* and Huchard. I state it, in accordance with their labors.

(*a*) *Hygienic Treatment:*—The patient must avoid all nervous causes, which often exercise a great influence on the malady, guarding himself from the cerebral fatigue due to labor and the general troubles of life. The patient must not work immediately after eating—a hygienic precept to be commended to the rest of the world; but after a half-hour's repose must take moderate exercise. The researches of Groudzew have in truth demonstrated that cutaneous

* Thesis, p. 143 *et seq.*

transpiration diminishes the gastric secretions. Tobacco should be forbidden, for it has a prejudical action on motility.

The dietary directions should be minute. The patient should forego tea, coffee, and alcohol, as also all made dishes and all substances which can excite gastric secretion—pork, condiments, etc. The farinaceous foods, green vegetables rich in cellulose (cabbage), are hurtful, because they are ill-digested in a stomach containing too much hydrochloric acid; they accumulate, and dilate it; hence dilatation is very frequent in hyperchlorhydria. Pastry, fat substances, fresh bread, are very ill-digested, and Lyon recommends that patients be permitted to partake only of toasted bread, in which the starch has been partly transformed into dextrin.

In certain cases wine may be permitted, but the quantity must always be very small—preferably of old red wine, rich in tannin. As for beers, those of high fermentation—extracts of malt—are to be chosen. In hyperchlorhydria with dilatation, M. Huchard recommends a dry regimen, and the employment of aqueous clysters for appeasing the thirst. M. Lyon, on the contrary, holds it dangerous to diminish the quantity of drink, for the gastric juice needs to be very much diluted. At all events, the table waters must be dispensed with; for the most part, they are charged with carbonic acid, and are apt to contribute to the dilatation of the stomach.

A lacteal regimen is indicated at the beginning of the malady when the pains are very severe, or when there are symptoms of ulcer; it is not necessary to continue it exclusively during too long a time. By giving a glass of milk at the moment of the nocturnal attacks, excellent effects are obtained (Germain Sée). The foods must be carefully minced and readily digestible; the frequent use of eggs is to be counseled. Complete mastication must always be recommended.

M. Lyon recommends that the diet be regulated in the following manner: In the morning, a glass of milk as first breakfast; two meals—at noon and at 7 o'clock; the evening meal to be very light in order to prevent a painful nocturnal attack. The latter may be supplemented by a slight collation. The milk and the eggs neutralize the hydrochloric acid, causing it to enter into combination with the albumen.

(*b*) *Local Treatment.*—The excessive acidity of the gastric juice must, first of all, be neutralized, and this must be done by the use of alkaline agents. The question of doses is much disputed. M. Huchard recommends large doses of bicarbonate of soda, 10 to 20 grammes per day; this to be administered at a distance from meal time, using as vehicles warm drinks or teas. The bicarbonate may be replaced by the decarbonated magnesia, which does not disengage gas. M. Georges also favors large quantities, and has observed real relief to result only when administering 10 to 15 grammes per day two or three hours after meals. If the bicarbonate be given at the time of eating, it combines with the hydrochloric acid, and then the digestion of albumen is not accomplished; abnormal fermentation develops at the same time. On the other hand, M. Lyon is a partisan of small doses of alkali, for several reasons. In the first place, it is desired to neutralize only the excess of acid, and Jaworski has observed cases of sudden arrest of gastric secretion, in patients suffering from hyperchlorhydria and saturated with alkalies, or treated at Carlsbad. Supported by the investigations of M. A. Robin, M. Lyon maintains that 2 to 3 grammes per diem easily suffice. To saturate one gramme of hydrochloric acid of the gastric juice, 1½ grammes of bicarbonate of soda is necessary; as there are about 150 to 300 grammes of gastric juice, containing 4 per 1000 of hydrochloric acid, it will be seen that the dose above indicated is sufficient to render this juice normally acid. Ewald has recommended a mixture of carbonate of potassium and bismuth, taken after meals; and Rosenthal 3 to 4 grammes of bromide of sodium, taken morning and evening, together with one gramme of bicarbonate of sodium. We cite the following formula of Wolff, which reproduces the composition of the waters of Carlsbad: Sulphate of soda, 30 grammes; sulphate of potash 5 grammes; chloride of sodium, 30 grammes; carbonate of sodium, 25 grammes; biborate of sodium, 10 grammes. Take a teaspoonful three times a day, two hours before meals.

In vertigo, good service is rendered by opium in small doses—2 to 3 drops of laudanum, or several centigrammes of Dover's powder. Intestinal atony is combated (Germain Sée) by a mixture of magnesia, cream of tartar, sulphur sublimed and washed, in equal parts; a dessertspoonful before each meal. The magnesia is an excellent laxative, and besides, like the bicarbonate, has an influence on the acidity of the gastric juice. Cascara sagrada, and podophyllin, are also very useful. As acholia is often encountered, at least relatively, the following formula will be of advantage: Benzoate of soda, powdered rhubarb, each 5 grammes; powd. nux vomica, 0.25 gramme. For 10 powders; 2 or 3 a day.

Lavage of the stomach is useful only when there is dilatation. M. Huchard, however, recommends it from the beginning.

Cardiac intermittences, which exist in many cases, will disappear on recourse to bromide of sodium.

With respect to mineral waters, those of Vichy are specially to be prescribed, choosing the springs which contain the least carbonic acid, that of l'Hopital, for example. At the

beginning give 120 grammes twice daily, permitting some of the gas to escape before drinking. Of the waters of Vals, those of the springs "Precieuse" and "Desiree" are to be prescribed. The spring Saint Louis d'Olette (Pyrénées Orientales) or the spring Mahourat de Cauterets, would be very serviceable. In certain cases A. Robin recommends first a season at Aix-la-Chapelle (douche and massage) and afterwards a visit at Vichy. Debilitated patients will benefit by the Saint-Nectaire cure, preceded by treatment at Plombières. The "grape cure," 500 to 800 grammes per diem, is occasionally followed by good results.

(c.) *General Treatment:* This should be directed against the anæmia and nervous symptoms. The ferrico-potassic tartrate is one of the best ferruginous preparations—Ferrico-potassic tartrate 0.50 gramme, powdered rhubarb 0.50 gramme, extract of cinchona 0.20 gramme. For one pill; one before each meal.

It is often only after removal of the hyperchlorhydric condition that one may resort to the administration of ferruginous preparations.

With nervous patients, hygiene, hydrotherapy, warm douches, and massage, are specially to be employed. It goes without saying that massage of the stomach is contraindicated in sufferers from hyperchlorhydria.

Treatment of Anachlorhydria: As Lyon remarks, the treatment must be the opposite of that followed in hyperchlorhydria; that is to say, we are to permit the use of most of the remedies forbidden in the latter, especially if we reflect that in anachlorhydria, the digestion of the amylaceous foods proceeds rapidly, while that of meats is difficult. It is necessary, then, to give but little meat and to select the white meats which may be finely divided. All foods are permissible. Thus the patient may partake of salt pork stew, soup of fowl, salads, cooked cheese, etc. Alcohol in small doses is useful, and white wine may be prescribed, diluting it with some of the table mineral waters. The employment of a lacteal regimen is to be exceptional, and counseled only in cases where the stomach of the patient has been exhausted by excessive alimentation.

The local treatment includes a double indication: (1), To excite the secretion of the gastric juice,and: (2), To impart to this gastric juice the acidity which it lacks. The employment of the bitter substances will fulfill the first indication, and we should avail ourselves of tinctures of colombo, of gentian, and especially of nux vomica. Lyon recommends particularly the use of alkalies in small doses, administering them before meals; thus, the following formula will be useful: Bicarbonate of soda, prepared chalk, and decarbonated magnesia, each 0.20 gramme.

According to Germain Sée, the best digestive beverage is tea in very weak infusion, and at least a half litre to be taken, *hot;* it may with advantage be substituted for wine at the noon meal, and it satisfies the thirst better than the same quantity of cold liquid. It is not to be believed, however, that very large quantities of tea may be taken with impunity, as digestion will then be obstructed by the abundance of liquid. On the other hand, tea is an excitant, especially certain varieties of green tea, and persons subject to palpitations, so frequent in certain stomach troubles, will do well to restrict its use.

The employment of hydrochloric acid would naturally seem emphatically indicated in the class of dyspepsias which we are studying, and Trousseau long ago advised its use. In reality, however, the indications therefor are very limited; it is impossible to compare the action of acid artificially introduced into the stomach, with that of acid which forms there naturally. The latter acts in a state of combination, the nature of which is little known; but it surely exists. Hence, not the least comparison is to be made between the action of medicamental acid, and that of physiological acid; on the contrary, hydrochloric acid is very useful in the dyspepsias produced by abnormal fermentations.

Talma has particularly praised the action of hydrochloric acid. He recommends it in chronic catarrh, and even in cancer. In one case of the latter he believed,—such was the improvement,—that he had made an error in diagnosis; but the subsequent course of the malady showed he had not erred.

Riegel has not had results as favorable as those of Talma. Ewald advises that the acid be given in quite large doses, hence he prescribes 15 drops three or four times a day, a quarter of an hour after eating; sometimes he goes as high as 100 drops.

Jaworsky made experiments on man with different acids; as for hydrochloric, he injected into the stomach 3 grammes, diluted in 100 or 200 grammes of water, and at times relieved the painful phenomena—pain and acid taste in the mouth. Analyzing the gastric juice, he recognized that there was much peptone present, and that the reaction of the mucous disappeared. Boas prescribed large doses, but considered it contra-indicated in cancer. Lyon advised small doses, and praised the following formula: Pure hydrochloric acid, 4 grammes; water, 1000 grammes. A half-glass a half-hour after each meal, another half-glass to be taken an hour and a half or two hours later.

A number of authors have hit upon the idea, in weak and deficient acidity, of employing the organic acids; Foweski experimented with acetic, lactic and carbonic. The first two would have little action, distilled water being fully as active; furthermore, they impede the physio-

logical production of hydrochloric acid. On the other hand, carbonic acid excites the secretion of this acid. With Rosenbach, small doses of nitric or acetic acid, largely diluted in water, proved at times very useful.

Georges made demonstrative experiments with the digestive action of the organic acids. He first employed solutions of lactic acid of the strength of 2, 10 and 100 per 1000. According to him, this acid, combined with pepsin has no peptonizing action, in whatever quantity or under whatever name it be employed. A mixture of lactic acid and hydrochloric acid with pepsin possesses a peptonizing power proportionate to the quantity of acid hydrochloric contained in the mixture; this peptonizing power is moreover inferior to that possessed by the same quantity of hydrochloric acid uncombined with lactic acid; in other words, lactic acid obstructs the digestion produced by hydrochloric acid and pepsin. Acetic and tartaric acids give absolutely the same results.

There accordingly alone remains to prescribe, as acid, the hydrochloric; it is especially serviceable, according to Lyon, in the dyspepsia of anæmics, while its effects will be almost *nil* in anachlorhydric dyspepsia with lesions.

The general treatment will depend on the causal affection. There will be frequent occasion to recommend the use of tonics, sojourn in the country, the use of mineral waters.

It may be well to say a word on the alimentary hygiene to be observed in cancer of the stomach. As M. Dujardin-Beaumetz has well said, symptomatology and therapeutic treatment will vary in accordance with the seat and variety of the cancer, and with the more or less rapid course of the affection. Moreover, it must be remembered that even with the most extended cancers, the digestive functions may be normal. The use of foods in the form of vegetable soups should be recommended, and the vegetable and starchy aliments be prescribed, rather than the fatty and nitrogenous. We already know the reasons for selecting this regimen.

Treatment of Flatulent Dyspepsia (from fermentation):—Naturally, the basis of the alimentary regimen will be the exclusion of all foods capable of fermenting readily in the stomach; hence the rejection of sugar, milk, and fatty and starchy aliments. Very often, wine is badly borne, and when the patients suffer from pyrosis, it is a frequent thing to see rumbling regurgitations produced each time that several swallows of an alcoholic liquid are taken.

The medicinal treatment has been well known only a very short time. It was formerly held necessary, above all, to neutralize the acids formed in the stomach, and alkalies were then administered. The results were deplorable, and clinicians reported this fact without power to explain it. "The stomach contains a too large quantity of acids," said Trousseau: "It is necessary to neutralize them. To obtain this result, it is sufficient to administer chalk, magnesia, etc." Despite this logic, the malady is aggravated, and the acid secretion becomes more abundant instead of diminishing. Clinging to popular ideas, we see in this increase of accidents only an indication for persisting in medication, and so hasten to double or triple the doses, etc. Failing in our endeavor, it only remains to us to charge to the persistence of the malady, what should be imputed alone to our unhappy intervention.

Alkalies given after eating are injurious, because, neutralizing the gastric juice, they favor lactic fermentation, which is promoted only by a neutral liquid. They can be administered either in very small doses, and some time before eating, in order to favor the production of hydrochloric acid, or at the close of digestion. At that moment the alkalies can exercise their good effects by fluidifying the mucous and neutralizing the excess of acid which has formed or become useless. We thus prepare for intestinal digestion by supplying the necessary alkalies. It is certain in some cases of tardy pyrosis—three or four hours after eating—we many times have occasion to notice that the ingestion of bicarbonate of soda immediately arrests the symptom.

Hydrochloric acid is particularly indicated in the dyspepsias arising from fermentation, for it arrests the production of organic acids.

Dilatation is usual; we should then resort to lavage of the stomach with boiling water, boricated water, or water charged with naphthol. Lyon commends the following powder in flatulence: Equal parts of calcined magnesia, phosphate of lime, pulverized charcoal, and sulphur flour. The beta-naphthol is also very serviceable for obtaining stomachal antisepsis (Bouchard).

Treatment of Dilatation:—As gastric ectasia may accompany various troubles of the chemistry of the stomach, it is evident that its treatment should be adapted to the several varieties; but as Lyon observed, it will be necessary, first of all, to treat the dilatation itself; that is, we should endeavor to liberate the stomach from the alimentary residues accumulating therein, hence lavage constitutes a very useful method.

The alimentary regimen of sufferers from dilatation has been established in all its details by MM. Bouchard, Germain Sée and Dujardin-Beaumetz. The following is the regimen prescribed by the latter: 1. Breakfast at 7 o'clock: 2. Breakfast at 11 o'clock: 3. Dinner at half-past seven: 4. Never eat between meals. All foods are permitted, but meats, fish, eggs, the feculents, green vegetables and fruits, must be insisted on. The meats, moreover, should

be very well done, and broiled rather than roasted; fish should be boiled in water until the curd is hard; eggs should be very slightly boiled; the starchy foods are best given in the form of rich, strained soups; further, green vegetables should (must) be well boiled, and fruits used only in stewed form, excepting strawberries and grapes.

As for bread, the patient should use it toasted. For beverage he is to take at each meal a glass and a half (300 grammes) of white wine, largely diluted with mineral water; no pure wine and no vegetables. Finally, he is never to drink between meals.

M. Dujardin-Beaumetz completes his treatment by the prescription of powders containing equal parts of salicylate of bismuth, English magnesia, and bicarbonate of sodium, and if there be constipation, he administers the compound powder of liquorice.

Hydrotherapy may be very useful in certain cases.

M. Sée willingly gives a large quantity of liquids, and considers abstinence from drink a "physiological heresy and veritable danger." He has seen patients reduced to extreme emaciation and frightful debility when permitted to drink only two-thirds of a litre of vinous water per day, and yet the dilatation was not cured. In his opinion, "it is not the liquids which dilate, but the atony of the walls which permit them to dilate."

The auxiliary treatment proposed in dilatation has yielded few results. Lyon has never seen electricity render any service. Massage has been recommended by Ewald and M. Hirschberg.

In the case of gastritis, it is necessary to aliment with prudence, to give a little hydrochloric acid, and to wash the stomach in order to remove the mucous. Perhaps the administration of pepsin might render some service in this case.

My readers will no doubt be surprised that I have not spoken of the use of pepsin. It would seem that there is always enough pepsin, or at least pepsinogenic substance, in the stomach, save where the mucous is destroyed (Bourget); further, a very small quantity of the ferment suffices for the normal accomplishment of digestion. Georges has not observed the diminution of pepsin in chronic gastritis, and thinks it useless to give pepsin to a sick stomach; he says this introduction of pepsin may even prove hurtful, for in 42 examinations of gastric liquids he has 16 times observed it to impede digestion which without it would have been more or less well performed. We accordingly conclude that pepsin is useless.

In atrophic gastritis we should seek first to restore the integrity of the intestine.

I will conclude by suggesting the treatment of gastric crises of irregularity should usually be by carbonate of soda in large doses. Lyon has caused them to vanish by administering 10 grammes of the medicament in twenty-four hours.

Arrived at the end of this long review of diseases of the functions of the stomach, and their treatment, I hope I have shown my readers that the new methods of examination are within reach of all, that they are absolutely necessary to diagnosis, and that, finally, without their aid the treatment remains almost entirely empirical, and cannot rest on a solid basis.

PARIS, France.

ON DYSPEPSIA.

BY PROFESSOR LAMAREAUX.*

Dyspepsia, far from being a disease, is merely a symptom of a number of different morbid states. But if it accompanies an acute disease, it is considered a part of the latter. But when it is associated with chronic disease, the phenomena of the latter too generally are apt to escape the physician, who regards the dyspepsia as essential.

The negligence which clinical authorities have shown in failing to ascribe the digestive troubles which so often come before their observation to the diseases on which they depend, is such, that we see specialists putting to one side every other ætiological and nosological factor, contenting themselves alone with investigating the state of the gastric juice, expecting to find in the composition thereof the pathogenic conditions of the dyspepsia; forgetting the gastric juice is an effect of the proper functionating of the stomach, and that the chemistry of the gastric viscus is subordinate to an agent which dominates it, viz., the nervous system.

I do not mean to give the impression that I condemn the researches concerning the composition of the gastric juice; but what I cannot approve, is the tendency to base thereon the entire therapeutics of stomach-diseases, and to neglect the study of clinical types. It must be borne in mind that the gastric secretion cannot be primarily disturbed, and whenever it is found modified, is the result of either the ingestion of aliments of a bad quality, of a primitive and direct disorder of the nervous system, or the presence of a poison in the blood. So then, given a dyspepsia with secretory disorders, we shall have to search for the pathogenic conditions on which this trouble depends. In this way we shall find that it varies with each disease, both in quantity and quality of the gastric juice, and of the symptomatic manifestations, so that the characteristics of the dyspeptic trouble will generally suffice to make known the secretory disorder, and likewise to explain the pathogenic conditions.

* Pitié Hospital, Paris.

There is something in dyspepsia besides chemistry, and the pathogenic and ætiologic conditions must be known in order to determine a prognosis and institute rational treatment.

Here is one patient; a young man who for the last six months has suffered with bad digestion; at the time of his admission to hospital, his stomach would bear nothing. During these six months, every morning on rising he was taken with vomiting, the ejecta being first a whitish mucous, then bile. His appetite for a long time remained good, but after each meal there was bloating of the abdomen, and painful digestion; he had choking sensations, often hiccough, but there were no regurgitations or eructations. In the days which preceded his admission his appetite had failed, and he was supporting himself on wine until it too was rejected. There was a little trembling, night sweats, and bad dreams,—no headaches, no noises in the ears, no palpitations, no vertigo. Intemperance in the use of alcohol is the cause of his dyspepsia, which is a type of dyspepsia *ab ingestis*, quite distinct and quite different from the forms which I shall next detail. Doubtless an analysis of the gastric juice would reveal diminution in hydrochloric acid, but anachlorhydria is not the important phenomenon; it is only contingent, being occasioned by the disorders supervening in the gastric-mucosa. In normal conditions, the mucous membrane secretes a certain quantity of mucous and of gastric juice, but when it has been irritated by the prolonged action of wine, the quantity of mucous, and that of the gastric juice is augmented, and consequently its hydrochloric acid diminished. These are the pathogenic conditions the chemist-physician is apt overlook, and which are of more importance than analysis of the gastric juice. To relieve such cases it is not enough to replace the hydrochloric acid which is wanting, but it is necessary above all to allay the irritation of the gastric mucous membrane, and to this end I recommend milk diet for a certain period,—the milk is digested almost entirely in the intestine, and rest is given to the exhausted stomach. If there is any indication for hydrochloric acid, it would be better borne when the mucous membrane is in better condition.

By the side of this dyspepsia due to excess of liquor we place those due to over-eating; these constitute a well-defined group. In another group, I class those due to blood poisoning.

A third form may be designated as nervous dyspepsia, of which there are several varieties. There is one observed in connection with well-defined nervous affections, hysteria, locomotor ataxia, etc.; another comprehends eight-tenths of the dyspeptic patients, and constitutes quite an especial type; and it is the dyspepsia of the neurasthenic and the herpetic. Here is a patient, also a hard drinker, who has nightmares, bad dreams, falls down precipices, and has numbness and pricklings in his hands. On interrogating his condition a little more closely, we find the dyspeptic symptoms are not the same in his case as with the other patient, and, moreover, there are a certain number of accompanying symptoms which show he has other troubles. At the age of seventeen, he had a dry eczema, and intolerable itchings, especially in the evening; from fifteen to twenty he was a sufferer from migraine, sometimes also pains in the joints. He does not present trophic disorders of the nails or deviation of the toes, but has varices, and his temporal arteries are sinuous; it is in fact, a type of herpetism, and this patient is beginning to have arterio-sclerosis.

As regards dyspeptic symptoms, he has pituitous vomiting two or three hours after eating —the first patient vomited in the morning— and it comes on by paroxysms, lasting eight or ten days, accompanied by eructations, sensations of heat and burning in the epigastrium; and the vomit is extremely sour, containing acids which are the products of an abnormal fermentation of food in the stomach. The stomach itself is slightly dilated, but this is merely a concomitant symptom, being like the dyspepsias that are the effect of general disease. This man, then, has two diseases—one which he has brought upon himself, alcoholism, the other constitutional, and to which the dyspepsia must be attributed.

Here is another dyspeptic who has suffered from disorders of the stomach for three years. At the end of a meal he experiences sensations of weight and heat in the epigastrium; the stomach bloats, is a little dilated; there are pains in the loins; has never vomited. Like the preceding patient, he has had attacks of migraine, of rheumatism of the sterno clavicular articulation, and his arteries are beginning to become sclerosed; he also has hæmorrhoids. Nervous troubles predominate as he is restless, melancholy, hypochondriacal, utterly unfit for any kind of work. The gastric suffering is most pronounced four or five hours after a meal, and attributable to irritant chemical substances, generated by abnormal fermentation of food. These substances by reflex action, provoke cerebral anæmia, whence result divers nervous troubles—attacks of vertigo, and sometimes real fainting spells. These reflex disorders sometimes give rise to great anxiety in patients who do not understand their mechanism.

I once saw with Lasigne a female patient who, every night between one and two o'clock in the morning awoke hemiplegic; the whole household was frightened. We discovered the cause in simple indigestion, and after eight days of dieting it disappeared.

A man forty-two years of age, whom I saw a

short time since, also suffered every night from paralysis of the right arm, accompanied by difficulties of speech; he could hardly collect his thoughts to find words; but after an hour or two, all disappeared. During the day he had sensations of weight over the stomach and thorax, and attacks of vertigo. Cold douches and a little tincture of nux vomica, with dieting, brought him around again. He has since become a victim of arterio-sclerosis, and has now, in fact, Bright's disease—we often find that symptoms which come on regularly five or six hours after meals have their starting point in the stomach.

Here is a man 59 years of age, with an eruption of zona along the sciatic nerve, who in his youth never had migraine or epistaxis, but for the past fifteen years has suffered with hæmorrhoids, and pains in the joints. Examining his fingers, we find over the last phalanges, osteophytes due to the same general disease. For the last five years he has had pains in the stomach, which come on after meals, of great severity. His stomach is distended with gas, and the mucous membrane is irritated by organic acids, hence the reflex troubles, the vertiginous attacks, the prostration of strength, and lowness of spirits, which come on at the same time as the pain.

Most dyspeptics of this category have intestinal troubles. Constipation is the rule, yet some experience, every morning on waking, an imperious desire for a stool, while others have a stool after each meal, or periodical attacks of diarrhœa; sometimes, even, they have pseudo-membranous enteritis, and complain of severe pain in the rectum at the moment of defæcation, for which no material lesion can be found. The same patients sometimes complain of a severe sensation of burning in the throat, though not the least redness of the pharynx is discoverable on examination.

How are we to understand this last form of dyspepsia? These individuals are neurotic and impressible; as long as their nervous systems perform their functions well, everything goes on properly. But let the age of puberty supervene, let there be exhaustion from overwork, excess of coitus, or the strain of severe mental emotion, and the equilibrium is broken; the stomach is disordered in both secretion and contractility; the condition is similar to that which is observed after section of the pneumogastric. The secretion of mucous exceeds that of the gastric juice, and at the same time, the contractility of its muscle being enfeebled, the stomach undergoes dilatation. This dilatation then increases secondarily in proportion as gases develop, and all the concomitant accidents and reflex troubles follow.

Among the dyspeptic troubles, we have the tympanitic distension, the feeling of weight in the epigastrium, the vomiting which comes on three hours after eating, the gaseous eructations, and (more rarely) the sour regurgitations. Among the reflex secondary troubles, are observed vertigo, dazzling sensations, blurs before the eyes, sometimes syncopal attacks, and even veritable paralyses. Under other circumstances there are palpitations and other cardiac disorders which may lead one to believe that there is some heart disease. These patients during their younger days have had nose-bleedings, acne of the face, migraine; later, were sufferers from eczema, hæmorrhoids, pains in the joints; had trophic troubles of the nails, deviations of the toes; then, by degrees, the arteries became hard, and they presented all the symptoms of arterio-sclerosis.

Without doubt, in these patients there are troubles of secretion, but these are not the important thing. What dominates is the nervous disorder, and to benefit them we must improve their nerve tone.

Treatment.—Hydrotherapy under the form of cold lotions will in most cases be productive of good, to which when the disturbances are more inveterate, it is necessary to add a strict dietary regimen. The latter is of great importance. Clinical authorities who have wished to combat the "hydrochlorhydria" have counselled acids, while others having particularly in view the dilatation have recommended the dry diet. But it will be well to remember that if there is any one class of foods these patients cannot tolerate, it is *acids*; therefore suppress them, at once, along with all salads, fruits and wines, especially red wine, and the patients will experience a real relief.

The dry-diet cure never has given me good results. Victims of gastric-ectasia should be allowed to drink moderately with their meals, one cup weak tea, for instance, with slow mastication. Such patients should spend much time at their meals, and never bolt their food. Give very little bread, with sufficiency of cold roast beef, boiled ham, fresh fish, fresh eggs, green vegetables in moderation, a little tea or coffee well diluted with milk.

As medicine a little liquor strychniæ may be given to arouse the contractility of the stomach, and where acidity is a prominent symptom, it is well to order thirty grains of bicarbonate of soda at the end of each meal. Bouchard recommends antiseptics, naphthol in particular, to prevent abnormal fermentations, but I have never had particularly good luck with antifermentatives; I have not, in fact, yet succeeded in finding anything which is sure to prevent these fermentations.

This treatment, however, is purely symptomatic, and when we have palliated the worst symptoms, we have yet not touched the primordial cause, which is in the disordered nervous system. One may get the stomach righted, but it will not *stay* righted; the predisposition

will not be cured, and therefore relapses are the rule; hence the necessity of having the patients long if not continuously under supervision, in order that they may be taught to live right, and their nervous symptoms as far as possible be made healthy.

PARIS, FRANCE.

PROGRESSIVE LOCOMOTOR ATAXIA FOR TWO YEARS; CHRONIC DELIRIUM; COMPLETE FRACTURE OF THE LEG, WITH CURE IN ONE MONTH.*

BY DR. CHRISTIAN.†

The numerous works published of late years on progressive locomotor ataxia, seem to establish the fact that in this affection, the osseous system undergoes special alteration, so that fractures may arise with the greatest facility and even spontaneously.

Many observations have been published in support of this fact, but perhaps the same care has not been exercised to collect contradictory evidence. This would, however, be the only way of solving the essential problem—Whether the fragility of osseous tissue in ataxia depends on the nervous malady itself, or whether, on the contrary, it is not due to collateral, accidental circumstances, encountered only in certain cases. It is a complex problem which I do not know to have been discussed. But I believe it will be of interest if I describe a case which I have observed, because it differs from those which have been reported, and because the course of things was very different from the expected results.

S., Corsican by birth; born in 1834; entered Medicin de la Maison Nationale de Charenton on the 27th of May, 1884. I can learn nothing of the antecedents of the patient—whether or not there are nervous affections in his family.

He was formerly Inspector of Navigation of the Seine, and several years ago married a widow, from which marriage was born a little daughter, enjoying good health up to the present time. But a few months after his marriage, he began to present symptoms of tabes dorsalis, and the malady becoming aggravated, was forced to resign his post and retire.

The paralysis continued its habitual course, characterized especially by gastric crises and shooting pains. The intellect of the patient was soon attacked; at times plunged in profound hypochondria; at times a prey to violent maniacal excitement; and eventually he became dangerous to his household, and it was found necessary to confine him at Charenton.

At the moment of his entry, I could observe the classic evidences of ataxia—uncertain gait; throwing of the legs to one side; pains in the waist and in the lower limbs, especially at night; diplopia, etc. The patient attributed all these symptoms to rheumatism. Intelligence was clouded; he could scarcely follow a conversation; was sometimes sad, sometimes depressed, at other times excited, imploring, violent. He had not, however, any one well characterized delirious idea. He complained much of his wife, of his family, but without stating any precise grievance against them.

A whole year thus went by. The gait had become more and more uncertain; the pains persisted despite all remedies. Iodide of potassium in a daily dose of gramme 0.50 to 1.00 alone seemed capable of relieving the sufferer.

The 15th of June, 1885, S. was seated in an armchair in the gallery, when he was accidentally upset by another patient. He fell so unluckily as to break the right leg, the fracture including the two bones, and seated in the middle of the upper third; no exterior lesion. The same day he was transferred to the surgical department, where he underwent the classic treatment. One month after, he returned to my department completely cured, with a solid callus.

One singular feature was that the day after this accident, S. awoke with an ambitious delirium which we had never observed in him before: He was "going to marry the Queen of Spain," and occupy with her his "hotel in the Champs-Elysees;" he had "600,000 francs in cash;" and laughed, sung, boasted of his power, his talents, his riches, his ability to distribute honors, decorations, etc.

This delirium was not accompanied either by fibrillary trembling of the muscles, or by embarrassment of speech; consequently it was not a case of general paralysis. But it persisted for weeks with the same characteristics. Then a change of scene: He imagined himself dead; that he could neither speak nor swallow; had no longer either mouth, stomach or legs. It was necessary to nourish him by means of a stomach tube.

Beginning with the month of August, 1885, these alterations of delirium ceased to appear. The ataxia continued its progress; the patient continued to sink, and no longer left his bed. The muscles of the lower extremities atrophied, and he fell into a state of profound cachexia. In June, 1887, bed-sores on the sacrum; death ensued August 10th, 1887, in the last stage of marasmus. Unfortunately, an autopsy was not authorized.

This case assuredly presents a large number of interesting details, but I shall not dwell on them. The point to which I desire to call special attention, however, is this: An ataxic patient in an advanced stage of his malady (for it had lasted two years) has a fall, fractures his leg, and in spite of the unfavorable conditions of the case, the fracture is cured in one month, that is, in a very short time. If the

* Read before the Societe of Medécine Paris, June, 1890.
† Medicin de la Maison Nationale de Charenton.

osseous tissue had really undergone alteration —if there were really rarefying osteitis such as is supposed to ensue in ataxia—could the callus have formed so rapidly?

Without doubt, the traumatism producing the fracture was in itself insignificant (a fall from an arm-chair to the floor), therefore a greater osseous fragility may be supposed, as with people in good health fractures do not occur under like circumstances. At all events, the fracture of which my patient was the victim, proceeded in a manner very different from the course to be foreseen with an ataxic whose malady is two years old, and this has particularly prompted me to submit the foregoing.

PARIS, FRANCE.

CLINICAL NOTES.

AN OBSTINATE CASE OF TAPE-WORM.

Dr. J. R. Lewis, of Grinnell, Iowa, writes regarding a case of this character in a young man aged 23:

The patient applied to me a year ago, the trouble dating for some time previously—fragments of tape-worm had been observed, passed at intervals since the previous May or June. For nearly six months I treated him with pelletierine and also with fresh decoctions of pomegranate root bark—six different treatments all told—all of which were ineffectual. I then employed soluble elastic capsules of kamala and oil of male fern, I am happy to say, with most definite and satisfactory results. I gave my patient one capsule every half hour until eight were taken, following the last one with 32 grammes of Rochelle salts and in an hour later a Seidlitz powder. In four hours after the first capsule was taken the bowels moved moderately free, and at the same time the tape-worm was vomited.

Some 80 days have now passed and there are no signs of a worm—not one proglottis has been expelled.

THE RELIEF OF MIGRAINE IN BILIOUS HEADACHES.

Dr. John Lee, of Dexter, Mich., says his attention was called to the value of fluid extract of bugle weed through a patient who had suffered for fifteen years from distressing "sick" or "bilious headaches," invariably accompanied by nausea and vomiting of large quantities of bilious matter. Under the advice of a Canadian servant she made an infusion of a weed gathered on the farm, which invariably relieved her attacks. A sample of the weed being procured, Dr. Lee sent to Messrs. Parke, Davis & Co., of Detroit, who identified it as "bugle weed." Subsequently he has employed the fluid extract of bugle weed in cases of this character with most satisfactory results. In one notable instance, it proved effectual in relieving periodical headaches that had persisted for twenty-five years, often confining the patient to bed for three or four days. He administers from two to four grammes of fluid extract in warm water. Apparently the drug is worthy of more extended study. *Lycopus Virginicus* has long been known in domestic practice as a mild anodyne, while the *L. Europæus* has for years sustained among botanic and eclectic practitioners a reputation as a tonic alterative, exercising most marked influence in glandular enlargements and splenic engorgements resulting from chronic malarial poisoning.—ED.]

A NEW PLATE FOR INTESTINAL ANASTOMOSIS.

Dr. F. B. Robinson, Prof. of Anatomy and Surgery in Toledo Medical College, and who will contribute a brochure on Intestinal Surgery to the fifth series of the Leisure Library Series, published by Mr. Geo. S. Davis, of Detroit, writes regarding the use of the new *segmented rubber plate* as follows:

It is the combination of a ring of cat-gut, (rawhide or sheepskin) fastened to a plate made of two pieces of rubber. The ring is stitched to the plate by two catgut sutures, and the two rubber segments, making the plate, are held together by a suture of catgut at each end. The plate and ring are thus held together by catgut. The claim I make for this plate is that it is easily prepared, its material is accessible, it is suitably absorbable, in fact, so delicately adapted to the work of anastomosis that it can be made to suit the character of the secretions in any locality of the alimentary canal. It coapts the largest possible serous surface and holds in continuous approximation as long as desired the walls of the intestines. The suitability of the plate becomes very apparent when one can determine beforehand the time the plate will remain intact by the quantity and quality of the material composing the ring. The plate does not yield its approximating power until it entirely breaks down by dissolution of the ring. It produces uniform, even, equable pressure in all directions. No jutting prominences or uneven projections are exposed on the plate to gangrene the gut wall or slough the parts, producing fæcal fistulæ and inviting the demon peritonitis to end the scene. The plate produces excellent fixation of the anastomosed parts and consequent mechanical and physiological rest which is required for sufficient cell proliferation and definite healing. To the ring of the plate are attached six sutures armed with six round needles, which are passed through holes punched in the rubber egments of the plates.

Correspondence.

FROM THE TENTH INTERNATIONAL CONGRESS.

BERLIN, Aug. 18th, 1890.

Lister and Koch probably received a greater share of applause and attention than any other speakers. The address of the former was remarkable by the absence of anything whatever having the semblance of newness. Lister, emphasized, what all the world is well aware of, the superiority of corrosive sublimate over all other antiseptic agents, calling at the same time attention to the doubtful results obtained with cyanide of silver which he had tried on the recommendation of Dunston. Lister's advice to use greatly diluted solutions in sensitive tissues, such as the synovial membrane was, I think, superfluous. The spray has been wholly discarded by Lister—save for the purpose of obtaining a continuous disinfection of the operator's hands—as the air currents produced by it are apt to carry germs to the wound.

Koch was more diplomatic than Lister. "I have something new for you gentlemen," he said, "nothing léss than the long and hopelessly sought remedy for consumption, but I cannot let you know it yet, at least not before my pertinent experiments have been concluded." "*O si tacuisses, philosophus mansisses!*" His other remarks pertaining to the progress of the bacteriological science lacked all interest for the American guests, as both the present phase of evolution, and the advantages derived thus far from bacteriology, are well known to them.

Cantani too, speaking of fever and its therapeutics, brought a rehash of the doctrines as preached long ago by Winternitz of Vienna. "Fever," he said, "is no disease, but simply a symptom, an indication of the battle fought by the organism to get rid of a morbid condition. How imprudent to exhibit chemical antipyretics, for fever increases the phagocytism, *i. e.*, the capacity of blood globules to devour bacteria, and besides, so changes the soil for the pathogenic micro-organisms as to weaken their poisonous character. Hydriatic means solely are allowable which, besides, heighten the power of resistance of the organism against the inimical parasites."

Dr. Bayles, the medical representative of Edison, spoke of the inventor's trials to dissolve gouty concretions by means of electric endosmosis. Edison's experiments were based on the fact that the electric current quickens the endosmotic exchange of various solutions of salts separated by an animal membrane. The results obtained, particularly with the salts of lithium, are both interesting and satisfactory. One hand of a healthy man was placed into a solution of chloride of lithium, the other into a solution of chloride of sodium, and the positive pole of a battery into the former, the negative into the latter. The current had a strength of 4 milliampères and the treatment lasted 2 hours a day, in all 11 hours. The spectroscope examination of the urine revealed that considerable quantities of lithium had found their way into the system. A 73 year old gouty patient, too, was treated by Edison. "The patient had calcarious concretions on all joints except the knees, and excruciating pain in various parts of the body, caused no doubt by the pressure of gouty knots upon nerves. The hands were greaty swollen, the circumference of the little fingers being about nine centimetres. The treatment instituted consisted in the application of a current of 120 volts and 5000 ohms resistance. Again solutions of chloride of lithium, 1.08 per cent. and of chloride of sodium were employed. It was found that the patient could bear a current of 20 milliampères without inconvenience for four hours a day during one week. The pain ceased upon the very first day of the treatment, and the circumference of the little finger was soon reduced 6 per cent., which corresponds to the elimination of about 13 per cent. of gouty concretion. Further treatment had to be abandoned, the man failing to visit the laboratory owing to the great distance of the latter from his home." Dr. Bayles believed the above trials justify the further institution of experiments with electric endomosis in this and similar morbid conditions.

Professor Bérillon, of Paris, discussed the interesting topic of the exhibition of hypnotism in certain affections. Bérillon is stated, in his clinics, to have cured 360 nervous diseases by suggestion, within the last 18 months. In other words, instead of treating the patients with pharmacal and dietetic agents, cure was obtained by putting the patients into the hypnotic state and talking the disease out of their minds. As an explanation, Bérillon stated the intense influence exerted by the suggestion upon the physical centres of the patient. In hysteria too, where others had seen nothing but failure with the suggestion treatment, Bérillon obtained strikingly favorable results. In all the 155 cases observed, a single *séance* sufficed to exterminate the legion of symptoms of that protean affection. Less successful was the suggestion treatment in chorea, where usually four to eight *séances* were required; of twenty epileptic patients as treated with suggestion, but four favorable results can be recorded; in these, however, no relapse has been observed. Also, Bérillon mentioned the cure of sonambulism by suggestion, one to four *séances* sufficing. More remarkable, however, are the beneficial effects obtained in organic nervous affections, such as paralysis as resulting from apoplexy, and in spinal disorders.

It is singular that nervousness which, *a priori*, might be viewed as the very disease most easily curable by suggestion, is little, if at all, affected by this treatment The various forms of neuralgia, however—migraine, toothache, rheumatism and gastralgia—are readily relieved. Bérillon mentioned, in conclusion, three cases of chronic alcoholism, five of morphiomania, twenty-two cases of urinary incontinence in children, two of palpebral cramp, twelve of chorea, and a large number of cases of night-mare, all relieved. He regards suggestion as a treatment of absolute harmlessness—differing in this respect from Mendel & Charcot—and of reliable efficacy.

A demonstration of the famous electrical experiments of Professor Hertz, of Bonn, by Professor Rundt, was exceedingly fascinating. These experiments throw an entirely new light upon the force known as electricity. Maxwell, the English observer, pronounced first the doctrine that the ethereal movements of light and electricity were identical, and Hertz has succeeded in proving the doctrine true. Electricity, it was shown, could be reflected, refracted, is diaphonous, etc., like light. The experiments were conducted in a dark room, and were quite successful.

I cannot conclude my letter without at least referring to the interesting medical and hygienic exhibition annexed to the Congress. The first thing striking our eyes were immense models of some new hospitals, chiefly that of the City Hospital of Hamburg, consisting of 53 separate buildings, and forming a regular town of its own. Electric light, and heating of the floors, are among the numerous novel features of this great hospital. The Imperial Government exhibited models and specimens of its entire surgical and hygienic apparatus, showing how perfectly arranged the service is, both in peace and war.

In the chemical exhibition, the medicine case which Stanley carried across Africa elicited universal interest. Of new chemicals, I noted aristol, trional, tetronal, and lysol. The first two agents, exhibited by Bayer, of Elberfeld, possess, it is claimed, all the advantages of iodoform, without its drawbacks—being odorless and harmless. Trional and tetronal, exhibited by the same firm, are hypnotic, and lysol is an antiseptic agent chiefly suitable for the cleansing of the operator's hands.

The Medical Congress was in every way a perfect success, and will be long remembered by all participants.

A MISTAKE—WHAT OF THE FUTURE?

Accidents often lead us to lines of thought and action entirely new in our field of work. Some six years since, a lady in an adjoining county was subjected to abdominal section for what was thought to be an ovarian tumor, but on opening the abdomen the surgeon was surprised to find an abdominal cavity filled with tubercular nodules. The abdominal cavity was freely washed out and dried, then carefully closed. After a few days a free discharge developed from the wound, and continued for a number of weeks. She fully recovered, and has since carried a child to full term, and is well to-day, with no indications of tuberculosis.

Some three weeks since I opened an abdominal cavity for what I had diagnosed as pyosalpinx, and found the ovaries fastened to the pelvic floor by tubercular adhesions; all surfaces of the intestines, omentum, and peritoneum were completely covered with tubercular exudate. The peritoneum in no point reached could be separated from the adjacent walls. The abdominal cavity was freely sponged and washed, iodoform placed on the tubercular surfaces as far as possible, and the wound carefully closed. Four days after operation, she began to have a free discharge of disintegrated tubercles, and has continued to so discharge them to this date. I believe this, like the previous case, will fully recover from her tuberculosis.

Have we not arrived at a point in the treatment of tuberculosis, such that we are justified in opening any cavity for the same? It may be the possible future procedure in such cases. I have no doubt that the contact of the air and water, or iodoform, or perhaps all combined, destroyed the tubercles in these cases. I believe this condition is always acquired, never inherited. This question is worthy of the careful consideration of every surgeon. I believe we are on the eve of offering to humanity the greatest boon that has ever been given them at our hands.

In conclusion, I would offer the following suggestions for consideration: When an abdominal tuberculosis is suspected, freely open the abdominal cavity under complete antiseptic precautions, in a temperature of at least 90°; wash out well with hot water; thoroughly dry with sponges; apply iodoform to all tubercular surfaces with the hand; close the wound. When the temperature indicates disintegration or pus, open for drainage, but no washing of cavity unless septic. The same treatment would be indicated in the pleural cavity, or joints, or any portion of the body where tubercles are located. I believe that the future in the successful treatment of tuberculosis will be found in local treatment of the diseased surfaces.

THOMAS H. BRIGGS, M.D.

BATTLE CREEK, Mich.

MASTITIS.

In the MEDICAL AGE for July 10th, Dr. Hal C. Wyman gives, "in a nut-shell," the surgical treatment of abscesses of the female breast. He says most truly "this is among the most painful and distressing of the infirmities incident to maternity," and I take the case there chronicled as a text from which to urge upon the profession the beneficent doctrine of prevention.

Frequently our chances to prevent are *nil*. People try "old granny" remedies, as Dr. W. recites, including "camphor to dry up the milk," and pan-cake and bees-wax poultices to "scatter the beeling," etc. But in any case where we have previous control, or are called in time, abscess of the breast can be prevented. The treatment which I confidently recommend is as follows:

Dissolve eight to sixteen grammes of acetate of lead in a quart or three pints of water. A napkin, of linen or cotton, is dipped into the solution and applied to the swollen breast. Let the cloth be dipped and changed frequently so as to keep up the impression of cold. In some cases of very "nervous" women I direct a gentle beginning, and covering the wet cloth with a dry one. But in nine cases out of ten the shock expected from the treatment, and the "death of cold" they fear to take, vanishes as soon as the real benefit is felt. The chill expected does not come. Thus suppuration is prevented; sweating and prostration which signalizes the formation of pus is replaced by fall of temperature and return of appetite.

In cases of vigorous women weaning children, I give Epsom salts pretty freely, or iodide of potassium, but seldom find cases requiring either. Such patients often want to go about the house, but they should be made to lie down and keep quiet, when the breast may be exposed freely and uppermost, and the wet cloth, as cold as possible, applied constantly from six to eight hours, or until the swelling is all gone. And the wonder is how it goes!

I have thus prescribed hundreds of times, and with women in every condition of health and at all periods of lactation. It has proved effectual when the gland was hard and red all over—when it had throbbed and ached for twenty-four to thirty-six hours. Physicians and surgeons are apt to be incredulous regarding such statements. But the trial thereof is simple and easy, and no time is lost; if pus is not already formed, the woman will experience relief in half an hour. It is of no use for me to attempt to discuss the why and wherefore. The fact remains that the continuous application of cold reduces the local fever, prevents destructive suppuration, and preserves from impairment and mutilation the mother's pride, the cream of female beauty, the woman's breasts.

W. E. MOORE, M. D.

GRAYSON, Mo.

LACTATION IN A MALE: IMPERFORATE RECTUM IN NEW BORN INFANT.

J. V., French Canadian, male, æt. 21, married; was brought me by some friends, more as a curiosity than for treatment, they stating "he gave milk like a woman."

On examination I found a well developed and robust man, with mammæ of normal size, and nothing to indicate any uncommon power. But on pressure of either breast there was a flow of rich looking milk, which could be squirted several feet away from the body.

He has been aware of this remarkable power for about two years, discovering it as follows:

One day when rubbing himself about the chest he found a few drops of milk on the nipples, which, exciting his curiosity, caused him to press upon them, with the result of producing quite a flow. Since then he has often exhibited this power for the curiosity of friends, and finds the milk secreted very readily.

Though married two years, he is childless, though his sexual power is good.

***

I was called about two years ago to see W. B., an infant 24 hours old, mother having been attended by a midwife. Was told that about one bottle of castor oil, in teaspoonful doses, had been administered, but with no evacuation of the bowels since birth.

On examination I found the abdomen enormously distended, the child evidently suffering. The anus was patulous and normal, but on passing a probe up the rectum it appeared to terminate in a *cul de sac*, at the distance of about one inch.

Dilating the rectum with a nasal speculum, and dissecting carefully along its course for about one-half inch, the bistoury suddenly made an opening in the obstruction, and an enormous amount of meconium and fæces poured forth.

The opening was enlarged with artery forceps, and every few days for some weeks I passed a large bougie, thus preventing the wound from closing again. It showed a marked tendency to do this notwithstanding the fæces passed regularly. Patient did well and is to-day in good health.

W. M. DONALD, M. D.

970 Jefferson Ave., Detroit, Mich.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

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Editorial.

ANNOUNCEMENT TO SUBSCRIBERS.

The publisher of the MEDICAL AGE takes pleasure in announcing to subscribers that he can supply the MEDICAL AGE to all its readers who wish to continue it for the year 1891, together with the *Cosmopolitan Magazine*, one of the most popular monthly magazines published, at the regular subscription price of the latter, viz, $2.40. By this means subscribers will virtually receive the AGE gratuitiously or both journals at the price of one.

This arrangement as advertised in the advertising columns of this number of the AGE, will apply only to those subscribers both old and new who send in their subscription accompanied with remittance of $2.40 for the AGE and *Cosmopolitan* for 1891 *before* January 1st, 1891.

A sample copy of the *Cosmopolitan* will be sent on request to subscribers to the AGE who wish one, by the publishers of the Cosmopolitan, Madison Square Bank Building, New York City, New York, and the same privilege will be extended to the new subscribers to the AGE.

The modern magazine may be taken as embodying the best literature of the world, as the magazine editor pays the highest prices to novelists, scientists, statesmen, soldiers, and even kings and princes, for the best they can furnish in the literary line. The well-edited magazine becomes an educating influence in the family circle, whose importance cannot be over-estimated. The children, as they grow up, are attracted by its illustrations, and so come in time to have a taste for reading. There is always something that is new, something that is strange, something that is interesting; and we consider that we are doing our readers a positive benefit if we are instrumental in placing such a publication within their reach.

The special arrangement which we have made with the *Cosmopolitan* presents very unusual inducements. That magazine is already recognized as one of the most interesting publications of the day. It is seeking subscribers everywhere and obtaining them. The proprietors believe that the *Cosmopolitan* has only to be examined to secure a permanent subscriber.

Just think of what the combination means! 1536 pages of general reading matter by the ablest writers of the world, including over 1300 pages of illustrations that are unsurpassed in point of interest and execution, and 600 double column pages of medical information by the best foreign and native talent! Will it not pay you to send a subscription for the MEDICAL AGE and *The Cosmopolitan*, immediately? Remember, only $2.40 for the two.

A NEW THEORY OF INFLAMMATION.

The ubiquitous microbes seem destined to appropriate to themselves all pathology. So important is the part that they are supposed to play in the preparation and digestion of food by some physiologists, that it has been disputed whether we could live without them; it is also equally a matter of dispute whether we can ever die without them. Pathologists seem to be surrendering to these "infinitely little" organisms one disease after another, and the question may well be asked: Where will this stop?

Only a few years since, it was taught that suppuration might be produced by almost any irritant; that it was only an inflammation fanned to intensity and of long duration; a foreign body, or some chemical irritant, led to abundant exudation in a part, where more white cells were infiltrated than could be reabsorbed, and perishing constituted pus. Writers even spoke of a "suppurative diathesis" existing in cachectic subjects.

Subsequently was affirmed that suppuration was always the product of certain microbes; in other words, that in order there shall be a purulent exudation, cocci must first penetrate the inflamed tissue. Nevertheless, no one has yet manifested sufficient wisdom to explain how such micro-organisms generate pus; the fact of their constant association with suppuration has, however, been determined, and it has likewise been discovered that where they are rigidly excluded, no suppuration takes place. It is true that this startling generalization,—the fruit of researches during the past fifteen years,—has been hotly contested. Some affirm suppuration may be caused by introducing under the skin almost any irritant foreign substances, while others have showed that such assumption is based on faulty experiments.

Microbiology has not only appropriated as its own, one of the most common results of inflammation, but bids fair to appropriate inflammation itself. In fact the very definition of inflammation as given in a recent text book

on surgery, affirms the deadly microbe to be the essential factor in the genesis of this morbid process.

It is not our present purpose to oppose or defend a proposition that makes all inflammation microbial in origin and essence; it does not seem that science is yet sufficiently advanced to prove or disprove such a proposition, and, further, there are certainly grave objections thereto. It may be that pneumonic, tuberculous, syphilitic, even rheumatic inflammations, are microbial; but how is it with those that have been supposed to be due to the presence in the blood and tissues of alcohol, lead, arsenic, etc.? Do these agents act simply as predisposing causes, rendering the tissue a *locus minoris resistentiæ* where the phlogogenic microbe may wallow and revel, and pullulate to its fullest extent? We cannot positively affirm this may not not be the case, and some recent observations, in fact, go to show that many morbid causes which were formerly supposed to be *primary* are really only *predisposing*, and that in conditions of depressed vitality, microbes are the most active agents in forwarding all destructive morbid processes. This view was presented by Bouchard in an address before the International Congress just held in Berlin, from which we quote the following:

Hippocrates knew that cold was in some way connected with acute febrile diseases which we would to-day call infectious—amygdalitis, pneumonitis, pleurisy, arthritis, etc. The cold in these cases has not brought to the part a microbe from without or produced a solution of continuity through which might penetrate to the deeper parts one of the familiar bacteria, but it has disturbed the series of acts by which the lymphatic cells arrest and destroy the pathogenic microbes which are lurking all around us, when these micro-organisms attempt to force the barriers and pass from our tegumentary surfaces into our tissues or humors. I think that I have established experimentally the reality of this interpretation.

Like many others, I have verified the exactness of the claims of Roux, "that the normal blood contains no bacteria," but I have succeeded in determining without any external wound the rapid appearance of microbes in the blood of healthy animals, by subjecting the latter to the influence of causes which provoke in man the development of infectious diseases called *spontaneous*, of such as are caused by those pathogenic microbes which inhabit our cavities, and which remain inoffensive till a time when some debilitating influence renders possible their penetration and their pullulation.

I tried at first to test the effect of intense cold. When Guinea pigs were immersed in cold water, in less than a half hour, their rectal temperature descended to 34° C., and nearly all died, being incapable of rallying. The blood of these animals, subjected to this sudden and intense refrigeration, when sown in nutrient media remained sterile. I then reflected that the douche or cold bath is not the cause of pneumonia in man, while, on the other hand, we see this disease make its appearance after a moderate but gradual and prolonged chilling. I then provoked refrigera tion in a great number of animals by immobilization, by prolonged sojourn in the ice chest, by coating them with an impermeable varnish, etc. At the end of two hours, in one animal out of four, a drop of blood, when subjected to culture, gave rise to colonies of bacteria.

In an experiment of Charrin and Roger in which they sought to study the action of overwork, a Guinea pig kept for four hours on a whirling cage had its blood so invaded by bacteria that a single drop showed swarms of various kinds of micro-organisms. This was not, however, a case of overwork. The animal had been passive, making no movement, but had been subjected to the rolling movement. Fright and shock—the perturbation to which he had been subjected—had provoked a veritable state of arrest of nutrition which manifested itself by a fall of temperature.

At the moment when the blood was taken for examination, the thermometer in the rectum indicated only 34° C.

There are, then, numerous inhibitory influences which prevent the normal phagocytism which goes on in the interstitices of the internal tegument between the lymphatic cells and the pathogenic microbes which are inert while confined to the surface. The temporary suspension of this normal phagocytism enables these microbes to pass from the lungs, the pharynx, or the intestine, into the blood. We shall find that nervous causes of the same order also prevent that pathological phagocytism which is due to the action in the recesses of the tissues of the white globules of the blood on any microbes that may have found access to the internal parts.

As for the nature of inflammation, this in accordance with the new views is explained as follows:

An injury of some kind has devitalized the tissues of a certain region, when these become favorable pabulum for micrococci. The living tissues around still offer a decided resistance to the invasion of the microbe. Bacteria cannot thrive on the products of decomposition, but need for their sustenance dead but undecomposed albuminous substances. As soon as the supply of dead animal tissue is exhausted, the micro-organisms starve and perish, while the spores are left behind, dormant.

We will suppose the injury resulting in the inflammation to have been a wound; this has destroyed the vitality of those cells that lie in the direct path of the cutting implement. The blood and lymph exuded from the vessels coagulate and also represent dead matter.

If a number of active micrococci are implanted into the bottom of the wound, they will at once multiply, using the blood clot, and its extensions into the blood-vessels, together with the adjacent dead or devitalized tissues, as welcome soil for their development. This fermentable decomposition produces from the very beginning certain poisonous alkaloids,

ptomaines, that are very diffusible. These have a toxic influence on the adjacent vasomotor nerves, causing their paralytic dilatation, hence the active hyperæmia,—the *rubor*.

The blood passing through the adjacent arterioles and capillaries seems also to become altered; the red corpuscles become packed, and finally stagnate in the smaller vessels. The walls of these vessels, including the veins, lose their impermeability, and there is emigration of the leucocytes, and even of the red corpuscles, into the surrounding tissues; hence the swelling—*turgor*. Chiefly as a consequence of the increased blood-supply, a marked increase of the local temperature is observed—*color*. Direct pressure caused by the dense infiltration and the actual destruction of the nerve tisue—perhaps, also, in some measure, the immediate influence of the ptomaine on the sensory nerve filaments of the part—give rise to pain,—the *dolor*.

Stagnation and dense infiltration finally produce a very high degree of tension, leading to compression of large efferent vessels. The infiltrated portions, devitalized by suppression of the normal circulation, readily succumb to the inroads of the millions of micro-organisms, and actual necrosis rapidly follows. The last stage of textural destruction is the final liquefaction of the tissues and infiltrating leucocytes, aided by the exudation of large quantities of lymph from the adjacent unobstructed blood-vessels; and thus we have the formation of an abscess, or a cavity filled with lymph serum, dead leucocytes (pus cells), and shreds of necrosed tissue.

The veins also participate in the disturbances, and coagulation of the contents—*thrombosis*—takes place, and adds to the existing stagnation.

PHYSICAL EDUCATION IN RELATION TO MENTAL DEVELOPMENT IN SCHOOL LIFE.

Dr. Thos. Moore Madden, F. R. C. S., Ed., indulged in some most pertinent reasoning in a paper read before the British Medical Association at Birmingham, which is every way applicable to the school systems of the United States. The gist of his remarks is as follows:

"The respective claims of physical and mental training, and the evils arising from the neglect or abuse of either, are obviously questions of the highest medical as well as social interest. This neglect now presents itself in two different aspects: On the one hand, the children of the poor are compulsorily subjected at an absurdly early age to a forcing and injurious system of mental cultivation. Whilst, on the other hand, in the case of those of a better social position, the physical powers are not uncommonly overtrained, at the expense of the mental faculties. Of these errors, the former is the most important, and to its operation is, I believe, largely ascribable the apparent diminution of physical stamina observable in too many of the youth of the present day as compared with the physically more robust, if intellectually less cultured, generation of the pre-educational period. Looking at the overtasked and anæmic little children now permitted to be chained to the school desk, we might be tempted to believe

> 'Twas not the sires of such as these
> Who dared the elements and pathless seas;
> But beings of another mould—
> Rough, hardy, vigorous, manly, bold!'

"At the present time, a large part of the first ten years of life, which should be primarily devoted to physical and moral training, is given up to the development of the mental powers; the child, when a mere infant, being compelled to attend some school, where the immature brain is forced into abnormal and disastrous activity. On its return home, jaded in mind and body, to prepare for the next day's task, such a child is necessarily unfit for the enjoyment of the physical exercise which is essential for its bodily development and health, or for the still more important elementary training of the affections and moral faculties and instilment of religious principles, which are better acquirable from home teachings than from any school system. We are all agreed as to the duty of properly educating children so as to fit them mentally and bodily for the increasing requirements and competition of modern life. But as to the extent to which the former should be carried and the latter neglected in early childhood, there is unfortunately a great discrepancy between the School Boards and the views of those who have to deal in disease with the consequences of the violation of the laws of Nature. And hence, whilst little children are thereby overworked into disease or death, the physician must raise his protesting voice, albeit it would apparently seem unheeded.

"During the first eight or ten years of child-life, the amount of mental cultivation which a child's brain is capable of receiving with permanent advantage, is much less than is commonly believed. No greater physiological mistake is possible than that of attempting any considerable degree of such culture until the sufficient development of the physical stamina and moral faculties is accomplished. The organ of the mind is as much a part of the body as the hand, and ere either can function properly, its vital force must be fostered and maintained by nutrition and developed by physical exercise. A large proportion of those who come within the provisions of the Elementary Education code are semi-starved children of the poorest class who, when thus debilitated by privation, are necessarily as much incapacitated for any mental strain as for the accomplishment of any herculean feat of physical strength; it being not less inhuman, injudicious, and impolitic to expect the former than it would be the latter, from those so circumstanced.

"If the State, for reasons of public policy, determines that all children shall be compulsorily educated from their earliest years, it should certainly afford the means by which this may be least injuriously and most effectually carried out, by providing food and physical training as well as mental education for every pauper child attending an Elementary school.

"Amongst the results of overpressure in such schools are, brain disease in all forms—viz., cephalitis, cerebritis, and meningitis, as well as headache, sleeplessness, neuroses of every kind, and other evidences of cerebro nervous disorders. On no other ground can the increasing prevalence of these affections amongst the little victims be accounted for or explained, than by ascribing them to the new factors 'brain excitement' and 'over-pressure,' which in the case of young children are now too commonly disastrously associated with the process of misdirected education and neglected training.

"In connection with the physical management of childhood, I may add a few words on the abuse of alcoholic stimulants.

"The evils resulting from the abuse of alcohol were never so prevalent as at present, and are traceable in the diseases of youth as well as in those of adult existence. The results of this acquired or inherited alcoholism are brought under clinical observation in the form of cerebral gastric and hepatic disorders, and especially cirrhosis of the liver, which as well as the protean forms of cerebro-spinal disease, and the various neuroses so frequently noticed in hospitals for children.

"In the majority of cases of juvenile alcoholism that have come under my care in the Children's Hospital, Dublin, this tendency appears inherited and most marked in those whose mothers were inebriates—intemperance in women also bearing in other ways on the diseases treated in hospitals for children, where its effects are strikingly evinced by the moral and physical deterioration of the offspring of the drunken, and by their special predisposition to strumous, tubercular, and other constitutional taints.

"Under no circumstances should alcoholic stimulants be given to children, save in the same guise and defined doses as other remedial agents—my experience in hospital and private practice, at home and abroad, having amply confirmed the view expressed in a work of mine published many years since, viz :

"That it is physiologically wrong, as well as morally unjustifiable, ever to allow a healthy child to taste alcohol in any form."

Notes and News.

The House Top as a Summer Resort.—The unavoidable ills of the sultry summer season are aggravated by a variety of superfluous prejudices, the strangest of which is, perhaps, our persistent neglect to adopt the expedient of the House-top Resorts that enable our Spanish-American neighbors to survive the afflictions of a tropical summer. The tenants of a warm room with windows facing all the four cardinal points of the compass, might be easily tempted to infer that there is actually not a breath of air stirring at that particular time of day. Yet a few seconds of attention directed to the movements of a light house-top vane might convince them of their mistake. Tree-top leaves, too, probably can be seen moving in a light breeze, but the direction of that breeze may happen to differ from the exact lines of architecture, and a room facing north, south, east and west, may yet fail to catch an air current from one of the half-hundred different intermediate points, southeast for instance, or southwest, the prevailing direction of the "land wind" in the warm nights of our eastern sea coast towns. Campers on the house top esplanade, on the other hand, are sure to get the benefit of all those intermediate breezes. Objections on account of coal smoke, street dust, etc., hardly would apply to the suburban villas, which, in spite of surrounding shade trees, are apt to suffer severely during the ten hottest weeks in the year. Moreover, the objection would apply to all means of communication with the out door air. The draughts of a *texada* are merely the ordinary air currents of an open window multiplied by twenty-four. Awnings can be arranged in a way to afford protection from light summer rains, as well as from night dew. —Felix D. Oswald, M. D., in *The Chautauquan.*

Amenities of Medical Practice in South Africa.—A native fetiche-man in South Africa has just had an experience which should convey a moral to his colleagues. The favorite wife of one of the chiefs in the district was taken very ill, and the fetiche-man declared that the only cure was the ingestion of fat from the human heart. The chief on looking around, concluded that the heart of the doctor was most likely to furnish the amount of adipose required, and ordered him to be killed, which order was promptly obeyed, and the fat of the heart given to the afflicted chieftainess. The other parts of the body usually eaten by cannibals were, it is said, eaten by the healthy members of the chief's household. The inhuman chief has been placed under arrest by the district magistrate pending a full inquiry by the Government officials.—*Hospital Gazette.*

Malarial Fever and Eucalyptus Drainage.—The planting of eucalyptus trees for the purpose of draining the soil in malarial districts is one which has met with some success. The Trefontane Convent at Rome had become positively uninhabitable, owing to the malaria which attacked—in many instances with fatal results—its inmates. Senator Torelli presented a Bill proposing that the estate annexed to the Convent should be planted with eucalyptus as an experiment against malaria. The Bill was passed, and the Trappist monks planted thousands of eucalyptus plants of all species. But still the malaria raged, and several monks suffered severely. It was, however, remarked that it was only the monks who had their cells looking on the central cloister who fell victims to the malaria. This suggested the idea of planting four eucalyptus trees at the four corners of the cloister. The plants, sheltered from the winds, soon grew to great height. The immediate result was the complete draining of the soil in the cloister, and the disappearance of malarial fever from the Convent.—*British Medical Journal.*

New Surgeon-General of the U. S A.—Colonel and Dr. J. H. Baxter, for twenty-three years in charge of the administrative bureau of the Medical Department of the U. S. Army, has been nominated by the President as Surgeon-General with the rank of Brigadier. Whether his appointment will be confirmed by the Senate is a question, especially as he owes his position in the service to political power, having entered from civil life, and not through regular channels of examination and promotion. If seniority in rank were the rule, there are many regular surgeons in the service better entitled to the position than Dr. Baxter, such as Dr. Chas. Alden, Dr. Irwin, and others.

Dr. Robert Stephenson, of Adrian, Michigan, æt. 67 years, died at Vienna, Austria, August 7th from apoplexy. With a professional friend he was making a tour of Europe, after attending the International Medical Congress. His body was enbalmed and returned to Adrian to be buried.

Dr. Stephenson was born in Ireland, and received his education at Glasgow, settling in Adrian in 1847, beginning a practice which continued till he left to make his European journey. He was well known to the profession of Michigan, and his name was synonymous with the highest type of professional honor.

Dr. Silas H. Douglas died at his home in Ann Arbor, August 26th, aged seventy-four. He was for thirty-three years Professor of Chemistry in the University of Michigan. He will be especially remembered for his connection with the famous Douglas-Rose controversy. He was apparently an exceptionally good business man, as he has left a large estate.

Did Not Follow the Prescription.—The Physician—"Ah, your pulse is excellent; your tongue is clean; your eyes are clear. I see you have followed my prescription."

Patient—"Followed your prescription? No indeed, Doctor. Had I done so, my neck would be broken."

The Physician—"How? I do not understand you, sir."

Patient—"I threw the prescription out of the window!"—*Lancet and Clinic.*

An Incorrect Secretary.—Dr. Lassar, the Secretary of the International Medical Congress, is said to have left Berlin for New York to escape the consequences of his rudeness while conducting the Empress through the exhibition. Besides this, his official statements at the last meeting of the Congress now prove to be incorrect. The delinquent Doctor's friends excuse him on the ground that his nerves are overstrung, and that, therefore, he is not responsible for his actions.—*Med. Record.*

Insolubility of Compressed Tablets.—The Gazeta de Pharmacia de Lisbon declares the use of compressed tablets has not given good results. The violent pressure to which the drugs forming the bases of acid tablets are subjected, render them insoluble to such a degree they pass intact through the intestinal tract. Cases are quoted of comparative rejection by the organism of compressed tablets of analgesin, phenacetin, and other medicaments.

Sexual Perversion.—G. Frank Lydston, Opera House Block, Chicago, who recently contributed to the *Philadelphia Medical and Surgical Reporter*, a lecture on Sexual Perversion, has had so many inquiries from the profession as to wish it announced that he will supply on request, accompanied by stamp, a copy of this article, to any physician desiring it.

Poisoning by Paraldehyd.—An inquest was held last month at Cork (Ireland) Workhouse on the body of a girl, aged 20, who died from an overdose of paraldehyd. A temporary nurse administered about six times the quantity ordered. The patient was suffering from enteric fever. The nurse has been remanded for trial, bail being refused.

Baron Von Muëller Honored.—The President of the French Republic has conferred upon Baron von Muëller, the French order lately created for distinction in agricultural science and pursuits. The *Ordre du Mérite Agricole* has only two grades, and Baron von Muëller receives the higher one.

Before and After.—

When we want him, the doctor's an angel!
He's a god when your cure is complete;
But when his bill comes then we change all;
He's a medical fraud and a cheat.

Therapeutic Brevities.

A New Way of Irrigating the Nasal Cavities.—Dr. E. Pins (Wr. Med. Woch. Cbl. f. Ther.) has for some time endeavored to think of a method by which it would be possible to force fluids into the nasal cavities under a not too strong pressure, and to attain a shutting off of the upper pharynx or post nasal cavities without external aid, with at the same time the least liability to danger by the entrance of the fluid into the ear or the other cavities opening into the nose. Observing the fact that in strong expiration with the mouth closed, the soft palate completely shuts off the nasal cavity, he made use of it in constructing an apparatus, which consists of a bottle with perforated cork, through which two glass tubes of unequal length pass. The longer tube, which passes to the bottom of the bottle, is furnished at its outer end with an olive tip which fits into the nose; a mouth-piece is attached to the shorter tube, through which the patient blows while the other tube is in the nose.

The bottle being filled with fluid, the expiratory pressure is sufficient to force one to two quarts of fluid through the nose in a short time, but is at no time so great, according to the author, as to involve the danger of forcing the fluid into the extra-nasal cavities. This did not take place in 400 applications of this method among 30 patients of the author.

The method finds its contraindications in diseased conditions of the respiratory and circulatory organs.

Bi-hydrochlorate of Quinine for Hypodermic Use.—In the Bulletin Générale de Thérapeutique of July 30th, 1890, Beurmann and Villejean recommend the following preparation for the hypodermic use of quinine:

℞ Bi-hydrochlorate of Quinine, grammes 4.50.
Distilled water, grammes 7.50.
M.

This solution holds 7 grains in each 10 drops, so that 20 drops, or an ordinary syringeful, would give a good dose of the drug.

As the Bi-hydrochlorate of Quinine is not generally to be had, it is to be made by taking ordinary chlorate of quinine, as it is found in commerce, and preparing the Bichlorate in a few minutes by the following process: Add to distilled water enough hydrochloric acid to give it a specific gravity of 1.045 at 60° F. Then take 4. grammes of this acid solution and add to it 4. grammes of the chlorate of quinine. Finally, add to this enough distilled water to make 8. grammes, and filter. This solution is not caustic, since the acid is neutralized by the basic chlorate of quinine, so that the Bi-hydrochlorate is not irritating.

The Treatment of a Red Nose.—According to Unna (Lyon Medical, June 1st, 1890), redness of the nose is ordinarily due to acne rosacea, accompanied by dilatation of the blood vessels, and is frequently caused by seborrhœa, which must be combated by ordinary means. When the case is one of simple acne rosacea, Unna recommends the internal use of three quarters of a grain of ichthyol, and at the same time prescribes lotions of the same substance dissolved in water. At night he recommends the application of an unguent composed of zinc ointment twenty parts, rice powder five parts, sulphur two parts.

Where vascular dilatation is a prominent element of the affection, Unna advises puncture of the dilated venous trunks with Hebra's instrument, the procedure to be repeated two or three times a week

In light cases, and as a supplementary treatment in severe cases, he advises the use of ichthyol soap, while warm water should invariably be used for washing.

Cannabis Indica in Affections of the Stomach.—One of the most troublesome symptoms associated with disordered functional conditions of the stomach is the pain to which they not uncommonly give rise. This may take the form of colic, due to gaseous distension; heartburn; or the mere sensation of weight and *malaise* referred to the epigastrium. Nothing, according to Prof. Germain Sée, gives so much relief in this class of affections as the extract of Cannabis Indica in one-third of a grain doses. This drug does not interfere with digestion, while the irritability of the stomach is overcome. To effect a cure it is of course necessary to carry out the usual treatment, dietetic and medicinal, and when there is hyperacidity of the gastric contents, alkalies should be given three or four hours after a meal. It is necessary to bear in mind, however, that no relief is afforded in atonic or dilated conditions of the stomach.

Arsenic in the Treatment of Tumors.—At a meeting of the Surgical Society of Paris, M. Berger said that he had seen many operations, and had himself operated on lymphadenomata, but they had always returned. He has since employed the Arsenical treatment. In six cases he has obtained a complete cure, in two amelioration, and in one case no result. Considerable confidence could, therefore, be placed in this treatment—Fowler's solution and interstitial injections. M. Humbert said that the surgical treatment was no more serious than interstitial injections, and that the only absolute contraindication was generalization. M. Championnière has seen many cases treated by Arsenic improved, but not completely cured. Recurrence is frequent: nevertheless results are sufficiently favorable to merit further trial in these cases, and, indeed, in other tumors than lymphadenomata.—*Journal de Medécine.*

Perfumed Essences in Subcutaneous Injections.—Dr. J. Roussel, author of "La Transfusion du Sang," etc., is advocating subcutaneous injections in pulmonary phthisis, etc. He has employed perfumed essences, such as the antiseptic Eucalyptus, successfully; also sedatives, such as the Orange, Vervaine, and Heliotrope, in nervous disorders. The great advantage claimed for the injection of these essences is that they agreeably perfume the body, at the same time being substitutes for morphine without any of the dangers of that drug. Dr. Roussel states that during the last ten years

he has employed on his patients "subcutaneous injections" of "injectible Arseniate of Strychnine" in exceedingly small doses. He considers the effects are never dangerous, but always fortifying and stimulating.

Decomposition of Calomel in the Stomach.—Mialhe's believes that Calomel decomposes under the influence of the alkaline chlorides at the temperature of the human body. At a late meeting of the Societé de Thérapeutique, Dr. Paul Adam gave the results of some researches made on this subject. His conclusions are as follows:

In operating in the open air and at high temperatures, Calomel, under the influence of the alkaline chlorides (especially of the chloride of ammonia) may become transformed into corrosive sublimate. But closed from the air and in the presence of organic substances, the transformation does not take place; so, if we do not care to administer Calomel to a fasting patient, it does not matter if we give it to one who has eaten salt with his food.

Exalgin.—There has been some discussion of late as to whether or not Exalgin is a dangerous remedy. Professor Prévost, in the Revue Méd. de la Suisse Rom., says:

"It is more dangerous than antipyrin, or acetanilid, and it is well to be most circumspect in its use until experience shall have definitely settled the character of the phenomena which follow."

He then cited cases of poisoning caused by the ingestion of 0.40 grammes, three times a day. Dr. Bardet added that, while Exalgin must be used prudently, it is perhaps no more dangerous than are "other medicaments capable of producing toxic effects." Accordingly, those who most favor Exalgin, must be extremely cautious in prescribing the drug.

On the Treatment of Psoriasis by Aristol.—Dr. Schirren has observed the effects of Aristol in ten cases of psoriasis. Aristol is a thymol-iodide, which precipitates as a reddish-brown amorphous powder when a solution of iodide of potassium is added to an alkaline solution of thymol. Aristol has been found harmless, without toxic qualities, and is efficacious in psoriasis, though of slower power than other drugs now employed. It is not a specific against all skin diseases, as it has been vaunted to be in the trade, but has a certain worth in some of them, including psoriasis. Eruptions of various forms of psoriasis, and of long or short duration, are caused to disappear under a ten-per-cent. salve.

Aristol.—This drug seems to have found some favor among certain therapeutists. MM. Quinquaud and Fournioux lately stated its physiological effects to the Société de Biologie. It was given to animals in doses of 2.50 grammes per kilogramme of weight, and produced no unpleasant results. In man it is supposed to be eliminated by the urine in the state of an alkaline iodide united to some unchanged thymol. Four or five days are required for this elimination. Aristol, given hypodermically, causes no local phenomena of an inflammatory character.

Menthol in Uncontrollable Vomiting of Pregnancy.—A. A. Henske, M. D., in St. Louis Clinique.—Dr. S. Gottschalk recommends the following:

℞ Menthol, gramme 1.00.
Spir. vini, grammes 18 50.
Aquæ destill., grammes 148.00.
M. Sig. A tablespoonful hourly.

We had an opportunity to try the above. Vomiting ceased after the fourth tablespoonful. Dr. Gottschalk reports two cases with similar results.—*Archives Gynæcology*, August, 1890.

Ipecac in Children's Dysentery.—The follow- has been found of value:

℞ Ex. fl. ipecac, gramme 0 60.
Tr. opii, gramme 0.13.
Aq. cinnam., grammes 30.00.
Syr. aurant., grammes 25.00.
Syr. simp. q. s. ad. grammes 88.00.
M. Sig.—A teaspoonful hourly. If nausea result, lengthen interval.

Vomiting of Pregnancy.—Dr. Goodell, in Kansas City Medical Index:

℞ Cerii oxalat.,
Ipecac, ää gramme 0.07.
Creasoti, gramme 0 13.
M. Sig. This to be taken every hour until nausea is controlled.

A Formula for Insect Bites.—One of the very best applications for the bites of mosquitoes and fleas, also for other eruptions attended with intense itchings, is: Menthol in alcohol, one part to ten. This is very cooling and immediately effectual. It is also an excellent lotion for application to the forehead and temples in headache, often at once subduing the same.

A New Method of Producing Local Anæsthesia.—According to the Moniteur Thérapeutique, local anæsthesia can be readily induced by simply discharging the contents of two or three syphons of aërated water upon the part. The anæsthesia thus induced is said to last about five minutes.

An Application of Benzoin.—For cleaning off smegma and greasy applications used in treating balanitis and similar conditions, there is nothing equal to Benzoin. The application is painless and it cleans the surface without rubbing. It also seems to have a curative effect upon ulcerations.

Glycerin Clysters in Infantile Diarrhœa.—Two-drachm glycerin clysters have been found of great value in infantile diarrhœa. They act promptly, and do not cause discomfort.

To Remove Thirst.—Paint the tongues of your fever patients with glycerin, it will remove the sensation of thirst and discomfort felt when the organ is dry and foul.

Night Sweats.—From 0.30 to 0.50 gramme of sulphonal, it is claimed, will stop night-sweats.

Medical Progress.

THE THERAPEUTICS OF GONORRHŒA.—With the discovery of the gonococcus, the supposed specific germ of gonorrhœal inflammations, the prevailing ideas with regard to the diagnosis, prognosis, and therapeutics of this affection have undergone a complete reversal. Thus it was long held, and universally accepted, that gonorrhœa in the female was a mild complaint running a short course, readily cured by proper medication, and, save in exceptional cases, without serious complications or sequelæ. It is at present recognized, however, that the prognosis of gonorrhœa is far graver in women than in men. Before it reaches the uterus, the effect of this specific germ is of course of minor import; but when it has involved the endometrium and the mucous membrane of the tubes, its consequences are extremely grave. It is a frequent cause of death from involvement of the appendages and the surrounding peritoneum. Noëgerath has even gone so far as to assert that gonorrhœa is practically incurable. This represents an extreme probably as untrue as the still accepted theory that it is comparatively innocuous.

For many years medical journals have been teeming with vaunted specifics for gonorrhœal inflammation; activity in this direction is even more marked at present than in former times. There is, however, an element of hope, and also an element of stability, in the treatment at the present day, since it is no longer purely empirical, but is directed against the supposed causes of the disease, and is valued in proportion to its power, as tested clinically and in the bacteriological laboratory, against the vitality of the gonococcus. The antiseptic treatment is that which receives universal commendation to-day. The difficulty lies not in selecting an agent which is capable of destroying the germ, but in devising a means by which this agent may reach this germ—may exert its destructive action and yet may inflict no damage to the mucous membrane of the urethral canal. That such an agent will ultimately be found, we have little reason to doubt; but we do not believe it is yet discovered.

Mercury, the most powerful of all antiseptic agents, at first suggests itself. It is, however, when used in efficient strengths, exceedingly irritating, and its penetrating powers are comparatively slight. Copious retro-injections of dilutions in the strength of 1:19,000 to 1:40,000, have been enthusiastically lauded. Where this treatment is instituted early in the attack, it is frequently followed by brilliant results, all symptoms sometimes disappearing in the course of a few days. The apparatus is simple, and the method of application easy. A fountain syringe, and a catheter especially devised for the purpose, are all that are required. The latter is inserted and attached to a supply tube from the syringe. One or two pints of the dilute bichloride solution, as hot as can be borne, are then allowed to flow through the urethra, thoroughly irrigating it. This may be repeated two or three times a day: Unless the symptoms are promptly checked by this method, but little good will accrue from its continuance.

Copious washings of dilute bichloride solution may also be employed as direct injections. In this case a syringe much larger than the one usually employed in the treatment of gonorrhœa is required, since the repeated application of a small instrument is liable to irritate the meatus. A large soft-rubber syringe, holding at least an ounce, and provided with a blunt nozzle, is preferable. After each urination, from two to four ounces of the dilute mercury solution may be injected, the urethra being filled, then allowed to empty itself by very slightly removing pressure of the nozzle at the meatus. This treatment gives excellent results if applied sufficiently early; many cases are aborted, or, if this effect is not obtained, the subsequent course of the disease will be exceedingly mild.

Bacteriological investigation has shown that nitrate of silver is one of the most powerful destroyers of the gonococcus. Against the employment of this drug in gonorrhœa there is a widespread prejudice, based partly upon the belief that epididymitis and other complications of posterior urethritis are peculiarly liable to follow its use. Examination of many cases has shown that the cases treated by silver are peculiarly exempt from such complications. Recently several writers have highly praised the action of dilute solutions of the silver salt, varying in strength from 1:2000 to 1:1000, injected after each urination during the day. Much stronger solutions are frequently used with benefit, and Malecot claims that they are often successful in aborting the disease. On the first day the strength of 1:50 is used; subsequently weaker solutions are employed. After urination the urethra is washed out with boric acid solution, and the silver solution is introduced. During the intervals of urination, injections of bichloride 1:20,000 should be employed. Malecot also employs the common internal remedies, and in addition highly extols salol in daily doses of 90 grains.

Picard attributes the benefits accruing from the use of the nitrate of silver to the fact that it destroys the superficial epithelium of the urethra, causing its rapid desquamation and consequently the elimination of the gonococci; hence the treatment is successful in direct proportion to the regularity with which it is applied. Where the disease is past its first stage, where the meatus is dried, its lips swollen and inverted, where the glans is turgid, and the injection causes great pain, this treatment is contraindicated.

Picard recommends a solution of 1:25. One injection is made, and repeated in twenty-four hours if the parts are not red and painful.

White (Medical News, June 14th, 1890) has contributed a particularly valuable article on the antiseptic treatment of recent anterior urethritis. He discards as utterly without value a large number of topical remedies, and holds that the agents which can really be relied upon to produce antiseptic effects are, corrosive sublimate, sulpho-carbolate of zinc, boric acid, peroxide of hydrogen, and salicylate of bismuth. With the method of deep irrigation or retro-injection involving the use of the catheter, he is not satisfied. As a topical application the best results were obtained by frequent injections, from a large syringe, of a solution of bichloride as strong as could be given without causing pain, together with boric acid 15 grains to the ounce, sulpho-carbolate of zinc 10 grains to the ounce, and the employment of a 10 to 15

per cent. solution of peroxide of hydrogen as a menstruum. In addition to this local treatment he employs salol, together with cubebs, copaiba, and pepsin, as an internal medication. The results from this have been most gratifying. Of a large number of cases distinct and unmistakable effects were produced on the discharge in all excepting one, where acute indigestion prevented a thorough trial of the medication. In some cases the discharge absolutely disappeared in the first week of treatment. The internal medication is prepared in the form of capsules:

℞ Salol, gramme 0.30 to 0.60.
Oleoresin of cubebs, gramme 0.06.
Para balsam of copaiba, gramme 0.12.
Pepsin, gramme 0.06.

Six of these are given daily.

The use of the microscope is of great service in the treatment of gonorrhœa. Without it neither the diagnosis nor the course of the disease can be definitely determined. By its aid we can positively state when the disease has passed its congestive stage, when the microorganisms have disappeared, and in chronic cases we are able to determine whether the focus of disease is located in the anterior or the posterior urethra.—*University Medical Magazine*, Sept., 1890.

THE NECESSARY PER-OXIDE OF HYDROGEN.*—Stop suppuration! That is the duty that is imposed upon us when we fail to prevent suppuration.

As the ferret hunts the rat, so does Peroxide of Hydrogen follow pus to its narrowest hiding place, and the pyogenic and other microorganisms are as dead as the rat that the ferret catches, when the Peroxide is through with them. Peroxide of Hydrogen, H_2O_2 in the strong 15-volume solution is almost as harmless as water, and yet, according to the testimony of Gifford, it kills anthrax spores in a few minutes.

For preventing suppuration, we have bichloride of mercury, hydronapthol, carbolic acid, and many other antiseptics, but for stopping it abruptly and for sterilizing a suppurating wound, we have only one antiseptic that is generally efficient, so far as I know, and that is the strong Peroxide of Hydrogen. Therefore I have qualified it, not as "good," not as "useful," but as "necessary."

In abscess of the brain, where we cannot thoroughly wash the pus out of tortuous canals without injuring the tissues, the H_2O_2, injected at a superficial point, will follow the pus, and throw it out, too, in a foaming mixture. It is best to inject a small quantity, wait until foaming ceases, and repeat injections until the last one fails to bubble. Then we know that the pus cavity is chemically clean, as far as live microbes are concerned.

In appendicitis, we can open the abscess, inject Peroxide of Hydrogen, and so thoroughly sterilize the pus cavity that we need not fear infection of the general peritoneal cavity if we wish to separate intestinal adhesions and remove the appendix vermiformis. Many a patient, who is now dead, could have been saved if Peroxide of Hydrogen had been thus used when he had appendicitis.

This single means at our disposal allows us to open the most extensive psoas abscess without dread of septic infection following.

In some cases of purulent conjunctivitis we can build a little wall of wax about the eye, destroy all pus with Peroxide of Hydrogen and cut the suppuration short. Give the patient ether if the H_2O_2 causes too much smarting. It is only in the eye, in the nose, and in the urethra, that Peroxide of Hydrogen will need to be preceded by cocaine (or ether) for the purpose of quieting the smarting, for it is elsewhere almost as bland as water.

It is possible to open a large abscess of the breast, wash it out with H_2O_2, and have recovery ensue under one antiseptic dressing, without the formation of another drop of pus.

Where cellular tissues are breaking down, and in old sinuses, we are obliged to make repeated applications of the H_2O_2 for many days, and in such cases I usually follow it with balsam of Peru, for balsam of Peru, either in fluid form or used with sterilized oakum, is a most prompt encourager of granulation.

If we apply H_2O_2 on a probang to diphtheritic membranes at intervals of a few moments, they swell up like whipped cream and come away easily, leaving a clean surface. The fluid can be snuffed up into the nose and will render a fœtid ozœna odorless.

It is unnecessary for me to speak of further indications for its use, because wherever there is pus we should use Peroxide of Hydrogen. We are all familiar with the old law: "*Ubi pus, ibi evacua*," but I would change it to read: "*Ubi pus, ibi evacua, ibi hydrogenum peroxidum infunde.*" That is the rule. The exceptions which prove the rule are easily appreciated when we have them to deal with.

Peroxide of Hydrogen is an unstable compound, and becomes weaker as oxygen is given off, but Marchand's 15-volume solution will retain active germicidal powers for many months, if kept tightly corked in a cool place. The price of this manufacturer's preparation is about 75 cents per lb., and it can be obtained from any large drug house in this country. When using the H_2O_2 it should not be allowed to come in contact with metals if we wish to preserve its strength, as oxygen is then given off too rapidly.

H_2O_2 must be used with caution about the hair if the color is a matter of importance to the patient, for this drug, under an alias, is the golden hair bleach of the *nymphs du pave*, and a dark-haired man with a canary-colored moustache is a stirring object.—Robert T. Morris, M.D., New York, in the *Journ. Amer. Med. Association*, Aug. 9th, '90.

*Read in the Section of Surgery and Anatomy, at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

TREATMENT OF OBSTRUCTIVE DYSMENORRHŒA.—In the recognition of obstruction from cervical stenosis as the chief cause of dysmenorrhœa, will be found the key to the pathology and successful treatment of this condition in the great majority of cases. Thus in my hospital practice during the past twenty years, nearly eleven per cent. of sterility, similarly caused, have come under observation in a total of nine thousand gynæcological cases. Of all the ailments of female existence, few give rise

to more persistent suffering, or produce more disastrous effects on the general health, and even on the cerebro nervous system, or on the moral constitution of the patient, than does well-marked obstructive dysmenorrhœa. The latter consequence is more especially evident in many cases of alcoholism, which in women may very frequently be dated from their first painful menstrual period, for the relief of which stimulants are too often improperly administered, and repeated in increasing doses, until finally, in many cases, the victim of dysmenorrhœal alcoholism becomes a habitual, and, perhaps, an incurable, drunkard.

It is not my purpose to refer to the successive improvements which have since been effected in the methods of carrying out the gradual dilatation of the cervical canal, since the introduction into practice by Simpson and Swan of sponge tents or laminaria bougies for this purpose. No greater improvement has occurred in our branch of surgery than the replacement of these oftentimes unsatisfactory, possibly hazardous, or even fatal, and always painful, procedures, by the more effective means at our disposal for the rapid expansion of this canal. Of these, perhaps the best known and most generally employed are, either Hegar's, Duke's, or Lawson Tait's dilators. I now desire to call attention to another instrument which I have designed for the same purpose, and which, I venture to hope, may be found to supply a want still recognized by the gynæcologist —namely, that of a reliable and effective means of securing the rapid and permanent dilatation of the cervical canal in the treatment of stenosis giving rise to the morbid conditions now under consideration. This instrument differs from other dilators in several respects, and, above all, in one which I consider most important—viz., in producing expansion of the canal from *within outwards*—in other words, in imitating the natural process of expansion from the uterine cavity downwards to the os uteri; whereas most other dilators, such as Hegar's, etc., act in the opposite direction. In my own hands the utility of this instrument, the expansion effected by which may be measured by the affixed index, has been fully tested in a very large number of cases of sterility and dysmenorrhœa in hospital and private practice. I may add that my dilator, which does not occupy more room than the ordinary sound when introduced, may also be used with advantage for the dilatation of the female urethra in many cases in which this procedure is indicated.—*Abstract of a paper by Thos. More Madden, M. D., read before the International Medical Congress, Berlin, August,* 1890.

[The instrument above mentioned is made upon the principle of a glove-stretcher with ratchet and set-screw added.—Ed].

Antiseptics and Anæsthetics at Berlin. —It was evident on all sides at the Berlin Congress, that antiseptic, or rather aseptic, surgery is held in the very highest repute in that city. A glance at the operating theatre of any hospital—such as that of the Moabit, in which Professor Sonnenberg has charge of the surgical wards—was further sufficient to show the extreme care taken and the lavish expenditure that had been incurred so as to render all wounds perfectly aseptic. The surgical instruments are all kept in cupboards constructed solely of glass and iron, and consequently perfectly washable throughout; the scalpels are all entirely composed of one piece of metal, a method that renders it impossible for dust or dirt to collect between the blade and handle; the operation table is constructed of one slab of light green glass about an inch thick, placed upon an iron frame, and running upon wheels with India-rubber tyres; and in offices adjoining the theatre are ovens for the sterilization by means of dry or moist heat of everything (bandages, cotton wool, and dressings of all kinds), to be applied to wounds, or for use during the surgical operations. The surgeon exhibited the dress worn by him during operations, which included even goloshes. In Professor von Bergmann's clinic, too, in the Ziegelstrasse, similarly minute precautions are constantly observed. But in spite of the efforts to excel by this extreme attention to the details of antiseptic surgery that were everywhere observable, it was somewhat disappointing to learn that chloroform is still constantly employed for the production of general anæsthesia during surgical procedures. Possibly Dr. Horatio Wood's powerful address in favor of ether may direct attention to the compounds, such as ether, which anæsthetists in this country and America generally recognize as less liable to endanger life than chloroform. We are informed that Mr. G. Eastes took to Berlin one of Mayer and Meltzer's latest patterns of Clover's apparatus for the combined administration of nitrous oxide gas and ether; but he was unable to find an opportunity of demonstrating its use, as the Berlin surgeons at the large hospital to which he was referred performed no capital operations during the session of the Congress, being too busily employed in other ways.—*British Medical Journal*, August 23d, 1890.

Somnol.—With an industry only equalled by those who have sought after new antipyretics, physicians and chemists have labored diligently in the discovery, production and trial of drugs devoted to the relief of sleeplessness. As a result, the journals are filled with reports each month of the value of some new or partly tried medicament designed to produce sleep, and the latest of these which can claim any attention worthy of remark is Somnol.

Somnol is a form of chloral and urethan which possesses a somewhat burning taste, seems slightly irritant to mucous membranes, but is otherwise possessed of no apparent ill-effects in moderate amounts. It is a liquid of clear watery appearance, and is given in the dose of ten to forty minims, according to the necessities of the case on which it is wished to act. Owing to its taste and other characteristics it is recommended that it be given in liquorice and water or in syrup of red raspberry.

The relief which is produced by Somnol comes on with varying rapidity in different cases, the personal equation as to the effect of all drugs being the chief cause of a rapid or slow action. When the dose is as large as thirty minims the sleep commonly ensues in about one hour or a little less. No after symp-

toms are generally present, but in some cases a sensation of heaviness and perhaps dizziness may appear on the following day for a few hours. In other cases the patients feel sleepy for several hours in the morning after rising from bed.

How safe Somnol is as compared to other hypnotics we do not know, as our own and the general professional experience is as yet somewhat limited, but we believe it to be much less depressing to the heart than chloral. Physiological studies of a sufficiently thorough character are also wanting to make us feel fully informed concerning the powers of this drug over the vital portions of the body. In our own cases it has certainly acted quite well, and has succeeded in one instance when all else failed.—*University Medical Magazine*, Sept., 1890.

Rapid Cure of Erysipelas by Ergotin.—Dr. Geo. C. Kingsbury (British Medical Journal) says: For erysipelas, like most painful diseases, hosts of remedies have been suggested, and ever since Heuter discovered cocci in this particular ailment, all sorts of germicide applications have been tried, with and without success. The most recent favorites are carbolic acid, ichthyol and creolin. Without wishing in the slightest to underestimate the value of these agents, I would like to call attention to what has been my invariable treatment for at least five years. In every case I have used Ergotin applied with a camel-hair brush to and around the affected area, and have found it a painless, rapid, and almost certain cure; in fact, I cannot recall a single case in which it has disappointed me. It is best used in the form of a 50 per cent. solution in distilled water, painted on frequently. Generally one or two applications suffice to diminish all feeling of tension, and it is rarely that the pain is not quite conquered in twenty-four hours, leaving the patient comparatively well. In many cases I have relied solely on the Ergotin, not prescribing any internal medicine.

In writing this note I have no desire to be thought original, for I saw the treatment recommended in some medical paper of about the year 1884 or 1885, but I cannot lay my hands on it now, and fear the treatment has not had a fair trial, as I never hear of it being adopted. Neither do I pretend to explain the action of the Ergotin, but the effective way in which it cuts off the excessive blood-supply to an over-vascular area naturally suggests its trial in other passive congestions, and in these also I have found it very useful.

In the Year-Book of Treatment for 1890, p. 255, I find it stated that Dr. F. Nesterovsky described two cases in which he has used a mixture of "Extractum Secalis Cornuti" and glycerin with success, the temperature becoming normal in six days. This encourages me to ask for a fresh trial of Ergotin, which I have found in not fewer than 30 cases to practically cure in one day.

The Surgical Treatment of Erysipelas.—In view of the recent encouraging results obtained in erysipelas by recent operative methods, Dr. Dillon Brown thinks the following case worthy of record:

Grace E. M., aged five and a-half months, had an acute abscess over the right tibia, which was incised on April 8th. On April 11th a characteristic erysipelatous patch developed, four inches below the opening of the abscess, and was accompanied by fever, vomiting, and marked prostration. In spite of carbolic-acid applications, and a thick ring of collodion painted entirely around the leg above the inflammation, and the usual local and constitutional treatment, the erysipelas continued to spread, and the patient's condition grew worse. On April 13th the erysipelas had spread three inches above the knee, on the outer side, and to the upper edge of the patella on the inside. The temperature was 104.5°, and the pulse 178. The child was seemingly going into a condition of collapse, and the case appeared hopeless unless the extension of the disease could be speedily stopped. Under chloroform anæsthesia, the Kraske-Reidel fence was made with a scalpel in the healthy tissues above the erysipelas and completely encircling the thigh. These scarifications were dressed with gauze wet with a solution of bichloride of mercury (1 to 1000). Both before and after the operation the thigh was thoroughly scrubbed with a solution of the same strength. Two hours later the site of the operation was marked by a red, elevated, angry band, which seemed to be erysipelatous, but which; probably, was due to the irritation of the bichloride of mercury. The inflammation rapidly travelled into the scarified area, but did not pass above this barrier. The next morning the baby was better in every way; temperature, 100°. In three days the child was convalescent, and she completely recovered.—J. B. Ball, M.D., in *London Medical Recorder*.

Action of Urine on Tissues.—At a recent session of the Society of Biology of Paris, Dr. Tuffier stated the result of his experiments with the action of urine on the tissues, and demonstrated that contact with this liquid is not injurious when it is aseptic. Even when mixed with the blood, urine can remain in the cellular tissue and in the peritoneum without provoking accidents. As a practical consequence, he has demonstrated that wounds may with impunity remain in contact with normal urine, and that, accordingly, one can unite by first intention those which proceed from operations on the bladder. There is then neither inflammation of the adjacent parts nor infiltration of urine, on condition that the operation be conducted with complete antisepsis, and also in midst of antiseptic sprays. These conclusions will certainly tend to permit surgeons to extend the field of operations on the bladder, for they can without fear reunite the wounds they have caused, and proceed as they would with wounds on the outside of the body.—*L'Union Medicale*, June 21st, 1890.

Antiseptic Treatment for Diphthera.—Drs. Chantemesse and Widd (Klin. Rundschau, Aug. 10th, 1890) propose: Carbolic acid, camphor, pure glycerin, ää grammes 25.00, with which the affected parts are to be penciled. The mixture is only slightly caustic, and of semi-liquid consistency.

The Medical Age.

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Original Articles.

THE EARLY OPERATION FOR HARE-LIP, WITH THE REPORT OF A CASE, ILLUSTRATIONS, ETC.

BY THOMAS H. MANLEY, A. M., M. D.*

Since my last contribution to the clinical study and operative procedures for deformities of congenital origin in the labial structures of the mouth, for "hare-lip," which was presented at the meeting of the American Medical Association, in Nashville, last May, I have completed the treatment of one case, and assumed charge of another; both with most gratifying results.

This last case, numbered 10 and 11 in the cuts, was two weeks old when sent to me for operation. As is seen in the picture, the lesion is the least extensive of the group, consisting in a cleft, which took the shape of an oblong notch, extending up to, and only separated from, the nostril by a very thin annular band of integument. It will be noticed that the gum is involved, and on the right side is rolled outward, pushing the lip before it on that side. On the other side, the free border of the lip hangs free, but is somewhat retracted by the combined action of the *risorious* and the *levator-anguli-oris* muscles.

The cleft involved only the gum, and without the displaced alveolar process, would show no evidence of cleavage; *i. e.*, it was attributable to faulty or defective development, and not to any lack of tissue, as some maintain is the cause in these cases.

As this baby was very young, aud the mother had two good breasts of milk, it was important to remedy the defect in as short a space of time as possible. In order to do this, I commenced by doing an osteo-clasis, under ether. I first refastened the separated alveolar margins of the gums, then seizing the jaw on the right side, used sufficient force to press the displaced segment back, until it was lodged where it belonged, and the alveolar-arch was completed. This step of the operation completed, the divided vermillion-border of the lip came into immediate apposition, without strain or tension. The separated gums were now firmly retained in position by a double girder of heavy silver-wire, clamped with flattened shot on both ends. The superficial cleft in the lip was now dealt with, after the method of the Irish surgeon, Collins. The beveled borders of the fissure in the lip were slit in a vertical direction, and the mucous and the cutaneous borders sutured with fine silk, separately. I had all spouting from the coronaries controlled by my "temporary transfixation ligature," which was introduced and tied tightly before the scalpel was used, thereby making the operation practically bloodless. The most rigorous antisepsis was maintained throughout.

The morning following operation, the temperature registered 99¼°. On the fourth day it was normal.

Union was complete on the seventh day, when the silk sutures were removed. Two weeks later the deep wire-rivets were displaced. The result was ideal in every respect.

It may be interesting to know that the case was clearly the result of *maternal impression.*

The mother was in this country four months when she was delivered of this son. She said that in Germany, where she came from, they lived on a farm and kept cows. In the out-house with the cattle, she had goats and pet rabbits. One morning, she said, when she went out to milk the cows, a large black rabbit sprung out from under some fodder and gave her a great start, and she was thereafter much worried about it, as it is a common tradition in her country that these rodents are the cause of these deformities.

CONCLUSIONS.

It may not be amiss to state the reasons why I assume that the early operation is the most successful and simplest of performance, and to distinctly emphasize the importance of giving due attention to what I regard as indispensable for good results.

By the early operation, I mean an operation as soon as the baby is born, the same day if possible. Certainly cases can be successfully dealt with later, but not with the ease and certainty as at an earlier date. In the first place, from a consideration of the mother, the daily observation of the horrible grimace, which some of those distorted features present, is liable to make an impression which may manifest itself in the way of a duplicate defect in the succeeding offspring. This is proven by the fact that in two of those six cases, the immediate preceding infants were simi-

* Visiting Surgeon to Harlem Hospital, New York.

larly marked. Thus the mother is spared her painful apprehensions of her child's future. If she have milk, the operation will enable the baby to grasp and drain the nipple.

With the baby, the bones are in their formative stages of development, cartilaginous and flexible, and can be readily bent and replaced without resort to osteotomy. Hæmorrhage, which is so fatal in early life, is almost *nil* with the arteries cut off temporarily during operation. Again, not the slightest particle of tissue is pared away or wasted. By the time dentition commences, the bone has taken shape and is solidly fixed. Antiseptics must be faithfully and systematically applied. The whole success of the plastic part of the operation, depends on asepsis; and so near the mouth and nose, the most diligent and intelligent care is indispensable during the first few days. If the wound becomes infected during the first week, failure is sure to follow. First, by an irritative fever with ulceration of the edges of the seam, and tearing out of the sutures, and: Second, through interference with the infant's nutrition.

Along with the foregoing, it is all-important that the case has the best nursing, and for this, no one can take the mother's place. With the combination here recommended in cases of hare-lip—hæmostasis, antiseptics, osteoclasis, and conservation of tissues soft and hard—along with very early age, I believe the practitioner can secure better results than by any other.

As the limits of this article will not permit me to go fully into the pathology, origin, and variety of those malformations, and all the *technique* of surgical management, I must content myself with what I have here outlined; but in closing, I earnestly exhort every practitioner never, *under any circumstances*, to remove or exsect that intermaxillary tubercle, or allow another to do so; for, be it remembered that in this tubercle are *always* imbedded the follicles for four teeth, the two central and two lateral incisors, which not only give form and expression to the face, and facilitate the division and grinding of aliment, but, besides, make speech a possibility. The infant's whole future, so far as appearance and health go, depend on the cautious and effectual reposition of this insignificant tuft of bone; hence we should spare it at all hazards.

The next case (Figs. 1 and 2) was operated on when eight days old. Deformity consisted of an opening in the left side, through the integument, gum, and anterior margin of palate vault, into the nasal cavity, the nostril included. Ten days after operation all the superficial sutures were removed, and the infant again took the nipple.

Fig. 1.—Baby eight days old, before operation.

Fig. 2.—Same, after operation.

This infant (Figs. 3 and 4) was operated on when six days old. The deformity consisted of a cleft through the left lip integuments into the nostril, and through the hard and soft palates, opening through the roof of the mouth and

Fig. 3.—Baby before operation.

Fig. 4.—Same after operation

floor of the nares, to the outer side of the septum. There was great displacement outward and forward of the right labial segment of the soft parts, a wide deflection in the same direction of the supra-maxillary bone, and a col-

Fig. 5.—Baby six months old, before operation.

Fig. 6.—Same two months after operation.

lapse, or falling in, of the nasal column, obliterating both nares. The vermilion border of the lower lip was everted, and the angular commissure of the mouth widened and distorted.

The case above (Figs. 5 and 6) was the second of three on whom I have operated within a year, who had precisely the same anatomical mal-formation. He was the oldest of the three at the time of operation.

He had a double-cleft through the hard and soft parts, opening widely into the nasal cavities, making sucking an impossibility, and deglution or swallowing very difficult unless he was placed on his back and the liquid fairly poured into the pharynx. His nasal secretions mingled with the salivary and kept up a constant drooling from the mouth. The intermaxillary tubercle was crowded forward and upward against the nasal-apertures, and was being pushed further out by the lateral margins of the maxillary-alveolar borders, which, owing to the long time since birth, had advanced underneath to almost meet.

This boy-baby's (Figs. 7 and 8) deformity is almost identical with the preceding; *i. e.*, both the oral and nasal cavities were thrown into one, and pressed well foward the hypertrophied perpendicular plate of the ethmoid. Swallowing was attended with the free issue of slaver from the mouth and nose.

FIG. 7.—Baby three weeks old before operation.

FIG. 8.—Same three months after operation.

This case, owing to misadventure and preventable causes, which, however, I was not wholly able to control, required three consecutive operations before solid and compact union of the deep and superficial structures was effected.

FIG. 9.—Baby two months old, before operation. Death precluded obtaining a picture showing results.

I operated on this infant (Fig. 9) last August (1889). The condition was one of double-cleft of the classical variety. Union was rapid and satisfactory, but during the third week after operation the baby developed cholera infantum, and died.

FIG. 10.—Baby two months old before operation.

FIG. 11.—After operation.

In this (Figs. 10, 11) baby, as with the other cases of unilateral fissuring of the parts, the division was on the left side. The division, as is seen, was not through the entire soft parts exteriorly, but the alveolar process was split in two. After doing an osteo-clasis on the superior maxilla on the side corresponding to the cleft, the approximation of the separated edges was very easy. On the seventh day, complete union was had, the superficial sutures removed, and the baby returned to the breast.

NEW YORK CITY.

SPONTANEOUS SEPTICÆMIA.

BY PROFESSOR S. JACCOUD.

The following case presents points of considerable interest:

Patient, a workman in a sugar refinery, aged 25 years, was admitted to Petié Hospital, June 4th, in the seventh day of an acute disease. When entered he had an eruption all over his body resembling small-pox pustules; the largest surrounded with a red areola; only the umbilication was wanting. There was, however, nothing in the history, in the general condition, or in the fever, to justify the diagnosis of small-pox.

Eight days before he was in perfect health, but somewhat fatigued; towards evening, while about his work, he abraded the cuticle on the right shoulder. The next day he was not well, and the next, May 29th, was obliged to desist from work. This day there appeared around the point injured a little crown of pustules; May 30th, the pustular eruption had extended to the trunk and members, and the patient was taken with pains in the joints, accompanied by redness and swelling.

When I first saw him, I was struck not only by the eruption, but also by the swelling of the right knee; there was plainly an abundant

effusion in the joint. The left knee was soon after affected, and next the wrists and elbows. If I had made the diagnosis from the swellings of the joints and the fever, it would naturally have been acute rheumatism; but the pustules were a puzzling element in the case.

After attentive observation, and after having ascertained his antecedents, I did not hesitate to pronounce the trouble a purulent infection. The case, in fact, bore a very marked resemblance to one I had but a few days before in the same ward.

This other patient was a digger by occupation, suffering from overwork; had continued to toil for several days with a severe headache, loss of appetite, and general prostration. At the time of his admission, the ankle joints were swollen and painful; in the evening, he complained of a sharp pain in the left side, where was found a very evident focus of pneumonia. In succession there ensued a phlegmon of the eye, abscesses in different parts of the body—on the right hip, on the left thigh, and a general pustular eruption. I made the diagnosis purulent infection, and I added, spontaneous purulent infection, for, notwithstanding the most minute search, I could discover no traumatism capable of explaining these pus collections.

In this case, the term spontaneous pyæmia seems, perhaps, more appropriate than in the first patient, whose traumatism was so slight, so out of proportion to the gravity of the subsequent pyæmic symptoms, and I cannot but think that in both predisposition had the principle rôle.

The present patient is a workman in a sugar refinery; is occupied the greater part of the day in lifting and carrying packages of sugar loaves. For this purpose he wears a large leather strap over his left shoulder to which is attached the burden he carries. This belt necessarily keeps irritating and fretting the top of the shoulder and scapula, as well as the posterior surface of the ilium against which the load impinges; the result is seen in excoriations over these surfaces and a certain amount of inflammation and suppuration. This comprehends the entire traumatism; it is veritably too insignificant to allow us to permit of any essential difference between the preceding case which resembles it in so many particulars.

The first pustules appeared around the excoriations; the general eruption showed itself the following day: It cannot be said with certainty that this was the result of continuity or contiguity; it was not by a zone of progressive invasion that it took place, for it appeared on the most distant parts of the body at the same time. Hence it is undoubtedly due to the influence of a general infection; the swelling of the joints which followed was also without doubt the result of the general blood poisoning, and infectious. In the other patient, there was less arthritis, but, on the other hand, there was broncho-pneumonia and a phlegmon of the eye superadded, which threatened for a time a fatal issue. As for the pustular eruption, it was alike in both patients. Both presented clear instances of what in England is called "Colles' pustules."

It was about 1838 or 1840 that Colles made known the first facts of this kind. He believed that these generalized pustular eruptions always developed under a local influence. Gross took up the subject where Colles left it, and remarked that in several similar cases of eruption noticed by him the local irritation was lacking, and he suggested the idea that it might be an expression of certain grave constitutional states.

The first mentioned patient is now well, without having presented any visceral affection, though I sought for such manifestations carefully. He had some swelling of the spleen, however, and there were traces of albumen in the urine, but that was all. The disease none the less lasted twenty-four days by reason of the successive invasion of the joints. The latter did not remain long affected, however, but as soon as one got better, another was attacked, and for twenty-two days the temperature kept between 38° and 39° C. On the twenty-third day, it fell to 37° C. and the patient found himself much better; the tongue had cleaned, the pulse was good, and although some of the joints were a little tender, I considered him as convalescent.

Why did this man thus become the victim of a general infection?

He had long been working beyond his strength, and, to use a common expression, was completely run down; moreover his natural constitution was defective; all the anterior cervical region and all the sub-maxillary region was disfigured by the cicatrices of scrofula. This patient was then a man of very little vital resistance, and in his overworked state, was predisposed to become the victim of infection. Let there come a slight traumatism in the shape of a superficial excoriation, and he is speedily invaded by pathogenetic micro-organisms. Other individuals endowed with a good constitution and possessing all the conditions of a good healthy vital resistance, might with impunity have had these excoriations, and at the most, one or two pustules would have formed, and the microbes, put in activity by the trauma, would have found before them a solid organism which they were powerless to invade.

From a bacteriological point of view, there is one difference between the second mentioned patient and the first. The second had an infection by streptococcus, with pneumococci for

the pneumonic focus; there existed even streptococci in the phlegmon of the eye. These micro-organisms were very active, as cultures and inoculations showed.

In the patient whose case I first described, we had to do with a pyogenic microbe, but not with streptococci,—M. Menetrier isolated the staphylococci in this case. The pathogenic influence of these bacteria is doubtless greater than that of the streptococci, but these are simple shades of difference, which should not prevent us from including in one category the two cases, and regarding the mechanism of the infection in both as alike.

The practical lesson to be had from the history of these two cases, is, that with an organism fatigued or badly constituted, one may see sometimes, as the sequel of the least local irritation, or even without any appreciable traumatism at all, a general infection set in which may put the life of the patient in jeopardy. These cases teach us the lesson that, always, it is the previous condition of the organism, the predisposition, which constitutes the danger of morbigenous infections, and where an organism of fair resistance would have stood well a serious shock, a worn out or enfeebled one will yield—and may quite succumb—to an aggression however light.

It is the general state which dominates the pathological evolution and which should dictate the treatment. Having regard to this prime factor, we have given our patients milk in abundance, alcoholic and other stimulants, and doses of salicylic acid varying from one to two grammes, according to the intensity of the fever. The results have been very gratifying.

Petié Hospital, Paris, France.

FORCED RESPIRATION IN OPIUM-POISONING.*

BY F. W. GOODALL, M. D.

We have very recently had two deaths in Bennington, and one in Hoosac Falls, (a few miles from me) from opium-poisoning, the first of which I think should have been saved. At least it seems to me that an effort should have been made to use Dr. Fell's method of prolonging life, thereby favoring the elimination of the poison and a restoration to health.

It was at the annual meeting of the New York State Medical Association that I had the pleasure of listening to a paper by George E. Fell, M. D., upon a new method of saving human life, as first originated and executed by himself upon human beings. This method, which is peculiarly his own, he styles "Forced Respiration," in distinction from other methods of artificial respiration, such as Hall's, Sylvester's, Howard's and others, which, he says:

Depend for their success upon the movements of the limbs or body of the patient, supplemented by pressure of the thorax on the part of the physician; those in which tubes and mouth-pieces are used and the air supplied by bellows in different forms; and the methods used on different animals, in the physiological laboratory, in which the trachea is opened to supply the air for respiration. To the latter method, which in operation required the forcing of air into the lungs by means of mechanical appliances, I have heretofore suggested the term *forced respiration* to distiuguished from the ordinary methods of *artificial respiration.* The necessity for a distinctive term, and its appropriateness, will be conceded when it is noticed that respiration has been successfully carried on in man by these forcible means for many hours after artificial respiration has proved futile. The operations are so different in application that a distinctive term is absolutely required to prevent confusion.

I refer to the Transactions of the New York State Medical Association for 1888, for a full history of this operation and a few of its brilliant results, which I have greatly abridged that I may bring up the subject in a manner not to burden those who may be already familiar with it, and to excite an interest in such as have not fully recognized its inestimable value when the life of a fellow being is surely passing away and no other known remedy can be relied upon to avert this terrible calamity. If this effort shall be the means of awakening an interest in this subject which will some day enable any one to save a human life, otherwise hopelessly beyond rescue, I shall have accomplished much.

That comparative little attention has been given to the subject of forced respiration upon man, may be accounted for by the general belief that artificial respiration, as practiced, would accomplished all that could be expected of the former. The opinion has also prevailed that more forcible measures than those used in artificial respiration would endanger the delicate lung tissue, or that the air vesicles might be ruptured. We may instance the very generally accepted Marshall Hall's "Ready Method in Asphyxia," wherein we find the use of the bellows or any forcing instrument strongly condemned. Even in some of our "Visiting Lists," where we might expect to find only axiomatic phrases, this rule is laid down with special stress upon the inadvisability of using any forcing measures or instrument.

While forced respiration has been practiced for many years, both here and abroad, upon animals in physiological laboratories in vivisection experimentation, we have yet to ascertain that such application has taught it to be of value in the saving of human life by the keeping up of respiration in the organism, or as

* Read at the Semi-Annual Meeting of the Vermont State Medical Society, June, 1890.

a means of resuscitation in asphyxia. Can this be wondered at when high authorities inform us that artificial respiration will supply the blood with oxygen fully as well as forcible measures? Dr. Fell says:

In a short discussion which ensued upon the report of my first case, presented to a section of the International Medical Congress at Washington, September, 1887, several physicians took the ground that the operation of forced respiration was not needed; that artificial respiration (Sylvester's method) would have accomplished as much. With such statements accepted and supported by the mass of surgical literature, it would be ridiculous to assert that the methods employed in the physiological laboratory were considered valuable in the resuscitation of human being in asphyxia.

I will now defend the position, based upon my own experience, that artificial respiration, as practiced by the Sylvester method, which is conceded to be one of the best, will fail to supply the lungs with air in sufficient quantity to keep up the action of the heart in deeply narcotized subjects, where forced respiration, in many cases, would prove entirely successful. In one of my cases the opinion was expressed by an experienced physician who witnessed the operation, that the simple institution of artificial respiration, through the bodily movements required, might have proved disastrous to the patient, owing to his weakened condition from the loss of blood. The contrast between the two in operation is very noticeable. In artificial respiration the patient is tugged, squeezed, and rolled about according to the method employed; while in forced respiration he is entirely passive, and will lie for hours without moving or appearing uncomfortable as long as the latter procedure is properly kept up. In the case just referred to, the life of the patient depended upon forced respiration for nearly a day and a quarter, and now the patient is as well as ever.

Many times during my assistance-ship of two years in the Physiological Laboratory of the Medical College in Buffalo, when operating upon canines for the purpose of exhibiting the thoracic viscera in action, the animal has been overdosed with the anæsthetic, and respiration would cease. Under these conditions artificial respiration was always resorted to, and kept up by pressure at intervals upon the chest, after which the operation of opening the thorax would be continued, and usually among the last procedures would be the substitution of forced respiration by opening the trachea and using the bellows. It was not taught that even the life of a dog could be saved by forced respiration. Of the almost thousands of graduates of this venerable school, not one excepting myself ever made the attempt to save human life by forced respiration after tracheotomy, and I would most positively aver that this application was not learned in a medical school.

The application of forced respiration per tracheotomy in the treatment of narcotism from opium or morphia appears to have been original with Dr. Fell.

The circumstances which led up to this plan of treatment are, briefly, as follows: In June, 1886, Thomas J. Dyke, a drug clerk, took an overdose of morphine. The symptoms of poisoning were very pronounced, and with the whole equipment of a most complete drug store supplemented with the most approved methods of resuscitation, the patient slowly died. Dr. Fell remarks:

At this time I felt keenly the inadequacy of the methods at our command; I thought of the work in my physiological laboratory. I was conversant with the requirements and procedure in the performance on dogs; I was supplied with the apparatus; and at last obtained a suitable patient upon whom to operate.

At 12:30 A. M, Saturday, July 23d, 1887, I was called to attend Mr. Patrick Burns, bookkeeper, residing at No. 49 Morgan Street. I found the patient in a semi-conscious condition. His wife reported that he had been drinking heavily for a week past, and in the habit of using alcoholic liquors to excess for ten or twelve years. His present excesses induced him to try chloral to produce sleep, but, finding that unsuccessful, he added 20 grains of morphine (approximately) with the following results: According to his statement, he had taken the drug late on Friday afternoon, so that sufficient time had elapsed to permit complete absorption. When first discovered by his wife, he was breathing stertorously, and was with difficulty aroused. A draught of black coffee was given, which produced vomiting. On my arrival I supplimented this with one of mustard, sodium chloride, and water, which effectually emptied the stomach. This produced no further effect, as the patient, left to himself, immediately passed into the deep narcotic condition of opium poisoning. The pupils were markedly contracted, and it was evident a serious case was in hand. At this time I administered two cathartic pills which I had with me, and, at different times, minim doses of fluid extract of belladonna; sent for some atropia, and frequently administered the one-sixtieth of a grain hypodermatically. To keep the patient awake, he was dressed, and two attendants walked him around the block in the cool, pure atmosphere of the early morning. At each round I examined him and administered more atropia. The fourth or fifth time round, when within one-half block of the house, his limbs gave out, and while being tugged and jerked along, stertorous breathing began again. He was carried into the house and laid on the floor, as I believed, to die. This was about 3:30 A.M. As the respirations failed, and the intervals between them lengthened, Sylvester's method of artificial respiration was employed, and kept up at intervals long after I had given up all hopes of the man's recovery, and until I was thoroughly exhausted, and, further, without apparent benefit to the patient. In the meantime I notified the family that the patient could not live.

At this juncture, Father Grant of the Cathedral appeared, and performed the last rites of the Romish Church. At my suggestion, a bed was prepared in the front parlor of the house, and the patient laid upon it. From Mrs. Burns I obtained the data for the death certificate, which I confidently expected to file in the morning. I then took a last look at the

patient, only to confirm my opinion that death was imminent, and then thought nothing more could be done. I was too thoroughly fatigued to think of forced respiration. The pulse, before Father Grant came, had registered as high as 180, and before I left the house it could be counted only with difficulty. I considered it 200 or more. The respirations at 4 o'clock in the morning were five per minute, and when I left the house for home, were intermittent, or with a long intermission followed by a few spasmodic respiratory efforts and then apparent inanition for a time. I left for home a little after 5 o'clock in the morning, went to bed, and, after a sound sleep, was awakened by a call about 8 o'clock.

Dr. F. R. Campbell, who, through illness, had been unable to respond to an early summons from Mrs. Burns, called about 8 A. M., and, finding Mr. Burns still alive, sent for me. I promptly repaired to the house, and found the patient was alive, with respirations, however, not more than one per minute, while the pulse could only with difficulty be detected at the wrist. The extremities were quite cold; the face had assumed a cyanotic appearance; pupils still contracted. The Doctor suggested that more atropia be given hypodermatically, to which I assented. Together we repaired to the drug store near by, and had some powders prepared, and on our return were surprised to find the pupils *widely dilated*; it is needless to say no more atropia was administered. The sudden dilatation of the pupils was undoubtedly caused by the paralysis of the nerve centers controlling the iris, and is one of the frequent conditions in the last stages of opium poisoning, and indicative of general muscular paralysis; it is also known as the dilatation of asphyxia.

Dr. Campbell now remarked: "We can do nothing more." I agreed with him, but recalling the case of Mr. Dyke, and my views then entertained, I mentioned to Dr. Campbell my conviction that Mr. Burns' life might be saved by opening the trachea, placing a tube in it, and with suitable apparatus, keeping up the respirations until the poison could be eliminated. I informed him that I had the apparatus used on dogs in the laboratory of the college at my residence near by. He offered to assist if I would make the experiment. With the aid of a gentleman stopping at the house, I obtained the apparatus. On the way I asked Dr. G. H. McMichael to assist in the operation.

The tracheal tube was quickly cleaned with a bichloride solution, and the operation of tracheotomy begun at 9 A.M. The hæmorrhage was overcome before incising the trachea. The greatest difficulty was experienced in passing a ligature about the trachea to prevent the air from passing up the throat. After this was accomplished, we were ready to begin the respirations. The blood passing from the incision was of a dark coffee color, indicating an extreme venous condition. Having been deeply occupied with the operation, I had not noticed the condition of the patient further than to be able to state that no respiratory effort had been made for some time, and that the dark-blue tinge of the face had materially increased.

We began the forced respirations; and as some interesting physiological changes ensued, it may be well to note them carefully. The lungs were inflated; not the slightest expiratory effort was made, indicating not only paralysis of the muscles of respiration, but loss of elasticity in the lung tissue. No mention has been made of the difficulty encountered after the patient revived and began to move uneasily about; these movements loosened the tube in the trachea and started hæmorrhage, and as at this time the patient was depending upon the forced respiration for his life, the result was uncertain. This was the most serious time in the operation. In the house were boarding three soldiers of the U. S. Recruiting Service, who were quickly summoned, and performed efficient service in restraining the patient. At this time, and before the tracheal tube was first inserted, considerable blood passed into the lungs; it was subsequently coughed out at the opening of the valve of the apparatus. At 12 o'clock, mid-day, after the forced respiration had been under way two and one-half hours, the ordinary tracheotomy tube was substituted for the tube of the apparatus, and the patient allowed to breath for himself.

To add to the uncertainties of this case, the night following the operation a bad attack of delirium tremens set in; the patient became quite violent, requiring at times four or five men to restrain him. This condition passed away, and with the exception of abnormalities in the number of respirations, nothing further happened to complicate the case.

At the close of Dr. Fell's paper of September, 1889, he gave the following *resumé* of all cases reported to date:

Case 1. Dr. Fell, of Buffalo, N. Y. Adult, morphia, grains 20, taken. Forced respiration, two and a half hours, saved life.

Case 2. Professor Dr. Boëhm, Vienna, Austria; morphia, grains 8.2 taken. Forced respiration, for four and one-half hours, saved patient.

Case 3. Dr. Fell, Buffalo, N. Y. Adult, tr. opii, two ounces, taken. Forced respiration for fourteen and one-half hours, saved patient.

Case 4. Dr. Fell, Buffalo, N. Y. Adult, tr. opii, two ounces, taken. Anterior jugular vein and trachea cut with a razor. Patient almost exsanguined. Forced respiration for twenty-four hours, twenty-one and one-half continuously, with transfusion of eight ounces of salt solution, saved life.

Case 5. Dr. Fell, Buffalo, N. Y. Adult, 80 years of age, tr. opii, one ounce, taken. Forced respiration, for twelve and one-half hours, failed to save the patient.

Case 6. Dr. Fell, Buffalo, N. Y. Infant, eighteen days old, morphia sulph., one grain, taken. Five hours afterward forced respiration kept the child alive for four hours.

Case 7. Dr. Fell, Buffalo, N. Y. Adult, morphia in large but unknown quantity taken. Operation undertaken after pulse at wrists was lost; "dilatation of asphyxia" had taken place; auscultation failed to detect heart action, and blood on tracheotomy was venous. Forced respiration produced return of pulse at both wrists, and clear action of the heart on auscultation. Blood became arterial. Heart ceased beating in about one hour.

Case 8.—Dr. Fell, Buffalo, N. Y. Still-born

infant. Compression of brain, caused by laceration and hæmorrhage, as shown by autopsy, prevented forced respiration from proving successful.

Case 9. Dr. Fell, Buffalo, N. Y. Adult, tr. opii, two ounces, taken. Forced respiration, after eleven hours, saved the patient.

Case 10. Dr. Fell, Buffalo, N. Y. Adult, morphia, grains 5 to 10, and tr. opii, two ounces, taken. Forced respiration, after fourteen hours, saved life.

Concerning the outcome of these cases in which recovery took place, there can be no question but that forced respiration is alone to be credited with the saving of several, if not all, of these lives, and yet all the cases reported, did not terminate so happily.

At just what stage or condition one would be justified in not using forced respiration, Dr. Fell says:

Having now saved five human lives which could not otherwise have been saved, it is difficult to state at what stage preceding death it will not prove valuable. The only safe rule is to make the attempt, and place your patient beyond the question of uncertainty as far as this operation is concerned, and a favorable result will occur in the majority of cases.

Too great publicity of this practice cannot be given it. The almost daily occurrence of death from opium poisoning, reported in the public press of the country, from San Francisco, Cal., to Portland, Maine, in which it is asserted that "every means was resorted to to save life," but which forced respiration per tracheotomy was in not practiced, and in too many cases was probably unknown to the physician, (in which a personal correspondence with physicians elicits the opinion not infrequently that cases in their charge could have been saved in that manner), indicates that physicians should not only be forewarned, but forearmed.

Since writing the foregoing, through correspondence with Dr. Fell, I am informed that he has added another to the list of lives saved, in which artificial respiration was of no avail. This, his last case, a young girl who had taken eight grains of sulphate of morphia, was treated by a new device for forced respiration (the trachea not being opened), which consists of a firm rubber cap fitting tightly over the nose and mouth of the patient, and which answers in some cases. This device I have not yet seen. The apparatus required to do forced respiration per tracheotomy, is arranged to impart moisture to the air, also for warming it for cases requiring air for inhalation warmer than the surrounding atmosphere.

Bennington, Vt.

TREPHINING FOR EPILEPSY, WITH A CASE.

BY THOS. J. MAXWELL, M. D.

Cerebral surgery now occupies a large place in the literature of surgical journals of the day. The first place of honor was given it at the meeting of the Congress of American Physicians and Surgeons, which convened at Washington, D. C., September, 1887, displacing abdominal surgery, which had so long held first rank. The various observations for many years have been tending to a common centre, and have finally culminated in many brilliant operations upon the brain which, heretofore has been looked upon as the *terra incognita* of surgery. Clinical observations carefully recorded and supplemented by *post-mortem* dissections, have contributed a large quota to the general fund. Experiments by physiologists, conducted upon the lower animals, have given many clues whereby to unravel the mystery of cerebral localization. The patient researches of anatomists in unfolding the peculiar and beautiful circulation and special distribution of blood vessels of the brain, have given us practical hints in the *technique* of operations upon that organ. All of these developments, wonderful as they are, would have been of little practical value but for the triumphs of modern aseptic surgery, enabling the surgeon to boldly uncover and remove pathological growths so deftly pointed out by the physician and neurologist.

The subject of cerebral surgery is much too broad for me to attempt to touch, however briefly, in all its phases. Cerebral localization, a knowledge of which enables one to point out with great precision the exact portion of the brain invaded by disease, would alone demand more scope than can be given this article. Instead, I wish merely to relate a case, which will illustrate the *technique* of operations upon the cranium, and present some of the latest phases of such operations:

Case.—Thomas Shay, 22 years of age, born of Irish parents, without a history of syphilis or tuberculosis. When a child of four years, received an injury by the fall of a stone upon the crown of his head, from a sufficient height to make a deep cut which must have measured at least an inch in length. There is no history of loss of consciousness, as he was some distance from home, and does not himself remember, but thinks he was not unconscious. There was nothing about the injury to cause alarm, or solicitude subsequently, until about two years ago, when he began to complain of headache and a feeling of pressure with heat, on the top of his head at the site of the injury.

He next began to have frequent attacks of *petit mal*, never, however, amounting to a full developed paroxysm of epilepsy. He complained of a vague uneasiness and unrest; inability to concentrate the mind or hold it to a subject without wandering. His parents noticed that his memory had failed, and that he was affected with aphasia at times. This was the condition of the patient at the time he presented himself.

On examining the head, I discovered a deep cicatrix over the center of the sagittal suture, directed diagonally across from right to left, and from behind forward. There was a perceptible depression of the skull at the site of the scar.

In consultation with Dr. Jenkins, it was agreed that an operation was justifiable, and ought to be done at once, as the young man was impatient, and deeply impressed with the idea that such *alone* could relieve him. He had undergone considerable medicinal treatment without benefit, and was afraid of the tendency to self-destruction that sometimes possessed him.

On Wednesday morning, March 27th, 1889, at 8 o'clock, I shaved the scalp, thoroughly washed it with soap and water, then with a solution of bichloride, one to a thousand (1–1000); next I applied a compress saturated with same solution to the head, and kept it in position until 11 A. M., at which time the operation was begun, Drs. Jenkins, Wiseman and Scroggs kindly and ably assisting.

First I applied an elastic band tightly around the head, from brow to occiput, passing it over the temples just above the ears, which entirely prevented troublesome hæmorrhage, which is often a source of annoyance and interference. Thus prepared, the anæsthetic was administered.

A semi-circular incision, much larger than the bone to be removed, was made through the scalp to the pericranium, the convexity looking backward; this form of incision appears to me better in every way than the old crucial. But before making this incision, I transfixed the scalp through the cicatrix, marking the skull beneath so that there would be no difficulty in locating the injury on the bone.

After turning the flap forward there was quite a depression in the skull at the site of injury, as marked through the cicatrix. A button was taken out far enough to the right of the sagittal suture to avoid wounding the longitudinal sinus; it showed great thickening. A quadrangular piece of bone an inch square, including the site of injury, was then removed by Hay's saw; this extended across to the left parietal bone, and also was very much thickened. A second button was removed in order to include all of the thickened bone, and the angles then nipped away.

This removal exposed more than three square inches of dura mater, including the longitudinal sinus. There was no bulging and the pulsations of the brain were plainly visible. The inner table of the pieces removed was cut away, thinning to the normal thickness. Each piece was perforated in two places aud kept immersed in a warm solution of bichloride until ready for final dressing; then they were fixed to the scalp flap so that when it was replaced they fitted into the places from whence they were removed. This fixation was secured by means of sterilized cat-gut loops passed through the perforations and scalp, and tied on the surface. The scalp flap was secured *in situ* by means of a continuous cat-gut suture. Finally iodoform was very freely applied over the line of cut, and the dressing finished by a thick, large compress of sublimated wool secured by a bandage.

The wound healed by first intention. Some bloody serum accumulated, and was removed by breaking through the adhesive flap at one point with a probe. The gut sutures absorbed in five days, and the two anterior pieces of bone seemed to be fixed by that time; but the posterior button floated loosely, and did not become fixed until the third week after operation. There was but little rise of temperature during treatment, 100° Fahr. being the maximum. Weight, pressure, and headache, were all relieved, and there was not even any soreness developed. The attacks of *petit mal* have disappeared, and he says his head feels clear. Insomnia is at present the most persistent and disagreeable symptom. A small fasciculus of horse-hair should have been left in the wound to secure drainage for thirty-six hours. The treatment of this case has nothing original in any of its details, though it may be claimed that it represents the latest and most advanced surgery in *technique* and results.

I present this case as an illustration of the safety with which the operation of trephining may be performed if strict antiseptic precautions be observed in all the details. The permanent loss of protection that follows by taking away of a large portion of bone, is met by replacement of the fragment of bone at the termination of the operation. MacEwan, of Glasgow, first taught us to replace pieces of bone reduced to small fragments, which has been followed with moderate success by Mr. Victor Horsley and others.

The buttons and pieces were first replaced successfully by Clark, of Glasgow, and by Weir, of New York. The latter replaces the pieces *in situ* by merely plugging them on the dura mater and filling in the interspaces with the fragments; but Dr. Sands improved on this method by attaching them to the scalp, thereby preventing pressure that might otherwise result.

The case reported demonstrates the ready union of the fragments with each other and the surrounding bones without being in contact at all points. Hæmorrhage from the bone itself may at times prove troublesome. This can be controlled by plugging with bone or dry catgut, or, better still, by crushing the edges of the opening by blunt forceps. The growth of small and large fragments when replaced, goes to disprove the theory of the all-important ne-

cessity of the presence of periosteum to maintain life in bone; on the other hand, it seems to indicate that the life of bone depends upon the bone cells, or osteoblasts.

These successful operations upon the cranium suggest to my mind similar interference to relieve fractures and displacements of the vertebræ, where the spinal cord suffers compression. Having observed the almost uniformly fatal results of such injuries, I have determined to operate by removing the fractured arches if other means fail to relieve, whenever a case affords opportunity.

KEOKUK, Iowa.

MARKED IDIOSYNCRASY TOWARDS QUININE.

BY J. HOWE ADAMS, M. D.

One of the unfortunate circumstances in connection with the use of quinine is, the frequency with which its administration is followed by various unpleasant effects, out of proportion to the size of doses or the length of time employed. The roaring and buzzing in the ears, the sense of fullness in the head and perhaps slight deafness which generally follows the administration of a therapeutic dose, often prejudice against the drug, so that it is not uncommon for patients to refuse to take it. This protest leads the profession, as a rule, to ignore the patient silently, and when the necessity for quinine is manifest, administer it. This practice is, perhaps, the wisest course to be adopted, but has the misfortune of occasionally bringing to notice persons on whom the drug seems to act more or less as a poison. As a rule persons with any degree of deafness cannot stand the drug from its effect on hearing and ears, especially if any actual inflammation exists in the middle ear. Again, vesical irritation is not rare after its use, even to the extent of producing hæmaturia. Irritation of the skin is also common, accompanied often with a pronounced erythematous rash; in a few cases great œdema of the face and limbs has been noticed with a scarlatinous rash desquamating in a few days. Purpura with doubtful propriety has also been ascribed to its use.

The following case resembles somewhat one or two of the above mentioned idiosyncrasies but differs in many other respects.

F. W., aged about 28, male, applied August 22d for relief from the condition in which he had returned from a summer trip. He had been at the seashore for several weeks and, as he believed, taken a bad cold which had "settled throughout his system," unfitting for business. He was feverish and feeble, feeling dejected and depressed; appetite was gone; tongue coated; bowels sluggish; and eyes jaundiced. He was placed on treatment with the suggestion that absolute rest be maintained for a few days. August 26th, he returned feeling no better; in addition he had now distinct chills, coming on at five in the afternoon, followed by high fever. In talking over the course of treatment to be pursued, he mentioned he was unable to take quinine, not stating, however, the reason. Despite this statement, three grain pills were ordered, to be taken the following day, commencing a number of hours before the expected chill. I did not see or hear from the patient until the second morning, when his sister reported him very much worse; that he had taken the medicine as directed, for one dose, the day before; that the pills must have contained quinine, for the result which always followed his use of that drug had again appeared. Later in the day, at his own suggestion, the young man took six grains of quinine in order that I might study its effects upon him. The medicine was ingested at three o'clock; I saw him at five, although the appearance which he presented had then been evident for an hour's time.

The appearance of the patient had altered. He was covered from head to foot with a deep erythematous rash, extending even through his hair, over the palms of his hands, and especially marked on his tongue; the eyes were most markedly injected—so much so that it quite altered their expression, the whites being almost a uniform red color; there was also extensive œdema over the entire body—his face showed this especially, the bridge of the nose being puffy, with great bags of flesh below the eyes. Withal there were considerable nervous phenomena, his gait being so tottering that he could walk only with great difficulty; his hands trembled badly, and he suffered intensely from a severe headache. With the rash, there was an intense pruritus, so that he felt as if he could dig his flesh out in handsful, this being most noticed in the scalp. An intense nausea prevailed, although there was no actual emesis, and he was considerably depressed throughout, and unable to talk very fully of his feelings. These phenomena had appeared a a number of times before, each time after taking a small amount of quinine. At this time he had taken but six grains, and the symptoms had appeared within a few minutes after its ingestion, being at their full height within an hour. They lasted six to ten hours, and then gradually subsided, with apparently no ill effects being left in their train.

The remarkable features in this case were, the suddenness of the onset of the symptoms, the smallness of the dose required, the extent of the erythema and pruritus, and the severity of the nervous phenomena. The patient was of the opinion that a much smaller dose would produce a similar effect, and that a persistence in the administration of the drug would be disastrous, which certainly seems probable. As he expressed it, he would not take a second dose for a hundred dollars; certainly, at the time of the appearance of the symptoms, but for the assurance of the fact that previous attacks had been fully recovered from, his condition would have caused considerable anxiety. Fatal cases are rare; Husemann has made a record of cases in which death was attributed to this

drug—not always with justice, however. In these cases, large amounts of the alkaloid had been exhibited. In the case of Bazirè, five ounces taken in ten days produced death. In the record of cases where large quantities of the drug were taken without much effect, it was undoubtedly due to the non-absorption of the most of the drug, as undoubtedly quinine is more or less poisonous to the human organism in large amounts. Another curious point in this young man's case was, that the drug prevented the chill, although producing a more unpleasant condition in its place, and undoubtedly but for its idiosyncratic effect would have done marked good.

252 South Seventeenth St., Philadelphia, Pa.

[The effects here described as accruing to the ingestion of quinine, we have often observed among the phenomena of intermittent fever, especially the "ague" form, without any reference to the use of any drug.

For this reason, so far as the evidence presented goes, we feel quite justified in assuming the results attributed to the alkaloid were coincident so far as it was concerned, and due to the malady alone. It will be observed that the phenomena *replaced* the chill, as might be expected. The writer almost invariably suffers in this way when attacked by ague; and such condition was by no means uncommon in the early days of the settlement of Michigan and Ohio, when these States were somewhat renowned for their "shakes."

As regards the effect of quinine upon middle-ear disease, we believe such to be due not to quinine, but to the substitution of *cinchonidia sulphate;* the same, also, as regards vesical irritation. The pills of quinine sulphate in the market are largely fraudulent, the baser alkaloid replacing the quinine. Again, many of the evil results attributed to quinine may be avoided by employing the *muriate*, which in fact is in every way the preferable salt, and contains a greater proportion of quinia than the best sulphate. This fact, suggested by us some time since to Messrs. Parke, Davis & Co., led this firm to place on the market pills of quinine hydrochlorate. Again, muriate of quinia, transformed into a bi-muriate, may be employed hypodermatically, whereby idiosyncrasies of purely nervous origin may be avoided.

We will admit quinine is toxic if administered in sufficiently large doses, but so is sodium chloride. In medicinal doses, however, the ill-effects ascribed to it, are, with rare exceptions, manifestations of the malady *per se*, modified perhaps by the quinine, or by "suggestion"—accruing to prejudice.—ED.]

Correspondence.

THE LATE DR. BRODIE.

"All the World's a Stage," and one of the actors who was called upon to play an important part in the great drama of life, has made his final exit. We all knew him, for his rôle was that of the physician. We met him as he went in and out among the sick and suffering of the city, intent on his mission of mercy and love, and there was no more familiar figure and voice than his at meetings of our profession. For forty years he stood forth in this community, occupying conspicuous positions in both professional and social circles.

It is held that most men live dual lives, and the statement is peculiarly true in the case of the physician. He has two pronounced characters to sustain outside of the immediate circle of his family—the professional and the social. Happy indeed is he who can properly blend these in his dealings with society and the section of the community which makes up his *clientèle.* As we regard our contemporaries, candor compels us to aver that this proper blending is but too rarely accomplished. With some the professional is obtrusively conspicuous, choking out all sympathy; again it is too much subordinated. In the case of our departed friend, geniality and sociability were so pronounced as to make it appear to the casual observer that the professional or more strictly scientific was secondary. To those who knew him best, however, this was only seeming, for back of his great humanity there was the deep stratum of qualities essential to the successful physician. There was nothing pedantic about him, but from the storehouse of his large experience and correct observation, his opinions were evolved with a freedom and celerity which made them seem intuitive. His conclusions were so quickly drawn at times as to make it appear that they came through the straight, short cut of intuition, rather than by the slower process of reasoning, step by step, from obscure cause to more tangible effect. They were however, generally correct, and when proved by the outcome of the case were found to be something more than the results of shrewed guessing. Few men can as quickly and correctly reach conclusions in diagnosis, and especially in the matter of therapeutic diagnosis, as could Dr. Brodie. Few moreover, possess the faculty of mixing confidence with their drugs to the degree which distinguished our dead friend. His patients felt, instinctively, that his diagnosis and therapeutics were correct. His social nature was of the effervescent, spontaneous type, which made it contagious, and thus offer determined results which drugs alone could not effect. Herein lay very largely the secret of his success, and the longer we practice medicine, the more we become convinced that the individuality of the position has its influence on the patient. The sick body is not a mere laboratory in which exact chemical results may be secured through combination of drugs and pathological conditions; and it would be well if we could all of us carry to the bedside the wholesome *bonhomie* and large hearted geniality which characterized our departed friend—characteristics

which will cause his memory to long remain green in our midst.

Dr. Brodie was a man of very pronounced individuality ,and had the courage of his convictions to such a degree as to have caused many to regard him as of a combative disposition. He was fearless in the expression of his convictions, and none more that he enjoyed keen and honorable opposition. No one was more appreciative than he of "the foeman worthy of his steel." Those who did not know him well might judge from his brusqueness and outspokenness that he was unsympathetic and harsh; but such an estimate would be extremely unjust. A more kindly and sympathetic heart has seldom throbbed in human breast. There was nothing mean in his composition, and although in conflict his blows may have been hard and fast, they were invariably on his opponent's front. The man does not live who can present a scar inflicted when he was not fully on his guard, and charge it to Dr. Brodie. His bitterest enemy (and men of such pronounced character always have enemies) needed but to give him the slightest excuse and he would pave the speedy way to reconciliation. If the sun ever went down on his enemy's wrath, the fault was not our friend's.

Dr. Brodie had well-nigh reached the patriarchal three-score years and ten when the summons came; but in spite of his years, we will long remember his youthful heart. Seldom, indeed, does the heart remain so youthful in a body over which has passed the weight and experiences of so many years. Up to the end he retained the heart of the impulsive, impressionable, ingenuous youth. I never saw a man whose thoughts, conversation and deportment so belied the years which weighed the body down. He preferred the companionship of young men, and young men were in turn drawn to him. It was his delight to entertain them and enter into their projects and aspirations, and nothing made him happier than for the young man to make him his confidant. His vivacity of mind, and the singular combination of the old and the young, of the man and the boy, in his composition, drew to him a large circle of the younger men of the profession, who were profited as well as entertained by his social qualities.

It will be many years before the memory of Dr. Brodie is effaced, and in the years to come those who knew him in their youth will cherish a kindly recollection of this unique old man. They will have met very few in whom the elements were more pleasantly combined, and none who took a more philosophical view of life. We have often heard him say that life is too short for needless care, and that no one is justified in denying himself all possible rational and innocent pleasure during the few short years of his pilgrimage. That was his creed and he was true to its spirit.

We bid our old guide philosopher and friend good bye. He has entered upon an experience which must soon be ours. We shall look in vain for his familiar form and cheery smile, and in vain we attune our ears to catch his genial greeting and words of counsel. It will be hard for us to realize that he is gone, and that the places that knew him will know him no more forever. It is a sad thought, and yet his fate is the common lot. The elastic figure which bounded into the room on the occasion of our first meeting twenty years ago, then in the prime of middle manhood, grew rapidly less buoyant with a few succeeding years, and at last it rests in death. Soon the youngest of us will have passed through the same experience, and the heavy pall will cover us. The moral has oft been pointed, and yet we do not scatter as much sunshine along our paths as we might.

J. J. MULHERON, M. D.

DETROIT, September 1st, 1890.

THE LATE DR. SILAS H. DOUGLAS.

"Silas Hamilton Douglas, one of the founders of this department of the University, and for twenty-eight years a member of this faculty, died in Ann Arbor, August 26th, 1890, at the age of 74 years. He was one of a very few strong men of steady purpose, who opened a way for medical education in this State, and from the first determined that broader foundations should be laid for the support of medical learning. Elected as Professor of Chemistry in this University on August 5th, 1846, he was soon active in those movements which obtained the adoption, by the Board of Regents, of a plan for the organization of a department of medicine, presented by Dr. Zina Pitcher and others, January 17th, 1848. His interest in medicine was direct and personal; he had entered upon practice as a physician before he became a college teacher, and in the beginning of the medical school he held for a time the chair of Materia Medica in addition to that of Chemistry. Dr. Douglas was one of the original members of this body who have served, each in turn for a considerable period, as dean of the faculty. Of these but one remains with us, now our honored presiding officer, a witness of the growth of medical education, rising evenly and surely upon the foundations laid by these fathers. Early in the building of the foundations Prof. Douglas set out to provide for the laboratory method of study, then nearly unknown in medical schools, yet a method which has become characteristic of the finest training of the time. When Dr. Douglas had labored in the University for ten years, on May 8th, 1856, the Board of Regents made provision for the erection of a building under his charge to serve as a chemical laboratory. Of this it is stated in President Tappan's annual report of the following year, that it was "one of the most complete and efficient in our country." To this and its development Prof. Douglas gave the best years of his life. It was due to the indomitable courage and unyielding perseverance strongly knit in his sturdy nature, that laboratories of science gained an early and vigorous growth in this institution. And it was through his interest in medical education that medical students received the best of laboratory opportunities. A staunch defender of the interests of the department of medicine and surgery, he was confident of its future strength and service. To him and his early associates in medical education a great debt of gratitude is due. 'We remember his services with thanksgivings, and write his name with honor.'

"To his family and his relatives we desire to extend our sympathies, and we invoke for them

the consolations of the religious faith which he sustained."

CORYDON L. FORD, M. D., Dean.

University of Michigan, Department Medicine and Surgery, September 4th, 1890.

At a meeting of the department of medicine and surgery of the University of Michigan, held on the 4th of September, 1890, the above minute was adopted, with direction that it be entered in the records of the faculty.

A. B. PRESCOTT, M. D.

ANN ARBOR, Sept. 15th, 1890.

THE LATE DR. R. STEPHENSON.

Doctor Stephenson, of Adrian, died of apoplexy at Vienna, Austria, on the 9th of August, 1890, and was buried in Oakland Cemetery at Adrian, Mich., on September 5th, 1890. Dr. Stephenson was born in Ireland in 1823, studied medicine in Glasgow, Scotland, came to America in 1846, graduated from the University of Buffalo in 1847, and located the same year at Adrian, where he continued to practice medicine until he journeyed to Europe to attend the late International Medical Congress at Berlin. It was while making a tour of the medical institutions of Europe that he met his death.

When Dr. Stephenson located at Adrian he at once entered upon the practice of his profession. The roads were poor, the people poorer, and the young doctor had to stand more than one man's share of the hardships incident to building up a practice in a new country. But he was made of good material, and was equipped with a superior knowledge of his art, with which he persevered until fortune and fame were achieved. For many years he was the leading exponent of surgery in southern Michigan and northern Ohio. All of the capital operations were performed by him with gratifying success. Lithotomy, laparotomy, etc., he performed at a time when such work was rarely done by the profession generally. He was a member of the State Medical Society, of the Southern Michigan Medical Society, and of the American Medical Association, and was regular in his attendance upon and participation in the meetings.

To the young medical men who located in the city where he lived, and in the villages about, he was uniformly courteous. His advice was by them often sought and always esteemed. Against quackery he waged a relentless war, and by his vigor and eminent ability prevented it gaining a firm foothold in the southern part of this State. Dr. Stephenson was not ambitious for professional honors as represented by the offices in medical societies, but expended his zeal in the development of the highest degree of medical and surgical skill.

HAL C. WYMAN, M. D.

DETROIT, Sept. 20th, 1890.

TO THE EDITOR OF MEDICAL AGE:

There are many persons in this country who are interested in medicinal botany in a very special manner, such as professors and lecturers on materia medica in our universities and colleges, and there also are many students of the science—interested in a lesser degree—who wish to see established a botanic garden of medicinal plants. This country is not fortunate enough to possess a "Kew Garden" of its own, in which may be studied living specimens of almost every known plant, but, if we did possess such an institution, we do not think dissected specimens would be furnished from it. Prof. Buysman, of Middelburg, Holland, has long had a small private garden of this kind, from which analytical or dissected specimens of many of the world's medicinal plants are furnished at about the cost of their production. This garden has long since become too small to accommodate any increase in the number of plants, and also insufficient for supplying the number of specimens solicited by correspondents. Contemplating the increasing need for larger facilities, Prof. Buysman has decided that a building is necessary large enough to represent all the plants of the European and American Pharmacopœias, but not being possessed of sufficient funds to do this as a private enterprise, he feels constrained to bring the matter to the attention of all botanists and scientific men. We have, therefore, consented, in the interests of this branch of pharmaceutical science, to receive any subscriptions which may be donated for the establishment of this botanic garden, or *Hortus plantarum diaphoricarum*.

Of the personal character and scientific attainments of Prof. Buysman, we have every confidence. We have on several occasions purchased from him analytical specimens for our herbarium, and we are in a position to testify to the high-class scientific character of the material with which he has supplied us. We are pleased to recommend to the attention of the scientific and botanical world Prof. Buysman's desire to enlarge his field of operation, and we wish him success in the botanic garden which he contemplates laying out.

Prof. Buysman's circular (in English) will be sent on application. He desires us to state that any sum, however small, will be acceptable.

PARKE, DAVIS & CO.

A CONVENIENT MODE OF ADMINISTERING MEDICINES.

Editor MEDICAL AGE:—After a prolonged and somewhat disappointing experience with tablet triturates, tinctures, pills and powders, I was led to seek for some means of administering remedies in a form that would embrace accuracy of dose, freshness of drug, and convenience in dispensing. Numerous letters of inquiry have led me to mention the plan adopted, trusting that it will prove of interest to those seeking a simple and efficient means of medication.

The plan suggested will be found superior to powders or solutions, for the more powerful remedies, because of its convenience and accuracy and freedom from danger. The dose is absolutely exact, can be easily swallowed, is in most cases palatable, and, when necessary, can be administered to infants. Clinical experience has shown that those pharmaceutical preparations, which by reason of their instant

preparation can be relied upon as fresh, are most potent. The writer employs sugar cones, that are very porous, dissolve readily in the mouth, and retain their shape up to the point of saturation. They have the advantage over any other cones that have ever been tried, of being very absorbent. The cones to be used should be tried with a certain amount of tincture, to see how much they will respectively absorb. The ones I am employing at present will hold about two minims each. The cones are made of pure white cane sugar, and can be taken by any patient, however sensitive, while their rapid solubility and disintegration will render them a more ready and desirable means of taking medicine, than in pill form. Any tincture may be employed provided it contains no water. I have been in the habit of employing fluid extracts made by Parke, Davis & Co., and diluting them to the desired strength of tincture, by addition of pure alcohol. All that is necessary is to have a tincture of known strength, and the dose can be readily graduated. For instance, it is desired to have each cone contain two drops, a sufficient number of drops is put in the vial to saturate the cones. If one-half drop is desired, the tincture is diluted one half with alcohol. When it is desired to administer remedies in gradually increasing doses, this method will be found accurate and convenient. The addition of any water to a tincture will dissolve the cones and therefore cannot be used. The small dose contained in each cone makes it possible to repeat the remedy frequently and so gain an additional therapeutic effect.

I have used in this manner, with excellent results, Ignatia, belladonna, hyoscyamus, aconite, pulsatilla, digitalis, cactus grandiflora, podophyllin, chamomile, ergot, arnica, nux vomica, etc. Some of the remedies will be found very bitter, but where a tonic effect is desired, this is not objectionable, but rather a desirable feature. Tereben may be employed in this manner, as an expectorant in chronic cough and bronchitis, and its local action upon the throat will prove very beneficial, while its administration is rather pleasant.

If desirable, the amount of tincture in each case may be reduced to one-third or one-fourth minim, suitable for administering to children. The number of remedies that can be given in this way is not limited. Personal experience and necessity will suggest many additions, and nearly every drug in popular demand may be given in doses graduated to meet almost every indication. As previously stated, the two essential points in this mode of medication are to know the absorbing power of the cone, and the strength of the alcoholic tincture, into which water does not enter in the process of manufacture. It is well known that the size of the dose often affects the degree and character of the action of the medicine. In this form, there is no loss of strength from evaporation or chemical changes. A remedy which in large doses acts as a sedative, in small doses may act as a stimulant. It is generally acknowledged that small doses frequently repeated accomplish better results than large doses at greater intervals. Here then, is a method of administration which places the graduation of the dose in the physician's hands, making it possible to do so accurately without scales or measures. I employ a dropping-tube, counting the drops as I put them in the phial, then shake the pellets about to absorb the fluid.

If I desire each cone to contain one minim of tincture digitalis, I put into a phial that I know contains sixty cones, sixty drops of digitalis, and allow them to absorb all the tincture. If each cone should contain one-half drop of digitalis, I put into the phial thirty drops of the tincture and thirty drops of alcohol, and then add the cones. Variations from this plan will suggest themselves. These points are offered in response to many inquiries from members of the profession, who desire to give the plan a trial.

To sum up the advantage of this mode of administration we have—palatableness of dose, a precise definite quantity of medicament and accurate dose; quinine mixtures, the medicinal agent being uniformly distributed through the whole mass; firmness of form and friability; and perfect solubility.

CHAS. H. MERZ, A. M., M. D.
Sandusky, Ohio.

[This method of administering medicines possesses many advantages, but it nevertheless has an element of uncertainty far from desirable, unless the exact point of saturation of the cones is in each instance definitely known, thereby giving a definite point of departure to work upon. It is by no means new, also, having been followed by the homœopathic fraternity for years, who employed pellets of sugar of milk instead of sugar cones. Many of the homœopathic "tinctures" used for this purpose are simply alcoholic solutions of alkaloids. —ED.]

PARAPLEGIA FROM POTTS' DISEASE.

At the last meeting of the American Orthopædic Association, Dr. T. H. Myers showed, by carefully collected statistics, that only a very few cases of paraplegia from Potts' disease are hopeless, and that nearly all eventually recover, so that it should be the rule to give a favorable prognosis, and this entirely independent of any operative procedures; that recovery takes place after persistence of the paralytic symptoms for many months, and even after as many as three paraplegic attacks of quite long duration. These paraplegias, then, in nearly all cases are only temporary.

There have not been enough microscopical examinations made of the cord in these conditions to definitely demonstrate its pathology, but there seems little room for doubt, that when the gray matter is once destroyed, it is never regenerated. This is shown in those cases of fracture and dislocation of the spine in which paraplegia occurrs immediately.

The fact that the paraplegia of Potts' disease is usually a temporary affection, proves that it is not due to destruction of gray matter, but to some other cause, perhaps, to inflammatory or irritative lesions. In view, then, of the strong tendency to spontaneous recovery, prolonged rest in the recumbent posture, and extension, should be tried before resorting to operative procedures—this is evidenced by the success attained by Dr. S. Wier Mitchell from this treatment. Massage, electricity, and orthopædic apparatus to enable the patient to be about, are all questionable measures.

G. G. DAVIS, M. D.
PHILADELPHIA, PA.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

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Editorial.

MEDICINE AND THE CLASSICS.

At the late meeting in Birmingham of the British Medical Association, the retiring President, Doctor Wade, in his address dwelt somewhat at length upon what he was pleased to term the "comparative uselessness of Latin to the medical practitioner," further bolstering up his remarks with citations from a letter of Professor Huxley's, in which the latter warmly advocated "dropping classics from the doctor's course of indispensable education." He closed with the suggestion the language "be relegated to the limbo of 'optional' subjects of the preliminary examination among which Greek was decently interred some years ago."

Admitting, as Dr. Wade assumes, that classic erudition is of little avail in combating disease, we think both he and Professor Huxley are too radical in their demands for "utilitarian medicine." All the traditions of medicine, as well as its earlier history, are embalmed in the classics, and no one can deny that such are of inestimable interest and value to students, to say nothing of the mental exercise induced by the study thereof, and that is calculated to expand the reasoning powers and quicken the capacity for observation. To be sure, translations are readily had in these days, but such rarely convey the real meaning, since the translator is obliged to sacrifice no inconsiderable features to rendering in a way that will be comprehended by the non-classical scholar.

Latin is the very foundation of medical language, and has been recognized as such for centuries; and it alone affords a means of positive communication between the medical men of different tongues and countries. Further, it affords immeasurable aid in mastering strange tongues, being the keystone to no less than five European languages, and intimately interwoven in the vocabularies of three more; it is to all the fulcrum upon which rests the lever of the student in the effort to master, and without which would entail a prodigious outlay of study and mental strength. It is then a question whether we can afford to sacrifice, in our pursuit of the useful, all that is ornamental in medicine; and yet Latin is less ornamental than practical.

Can the study of Latin be supplanted by that of other languages and subjects without depriving the practitioner of the mental expertness which is indispensable to the efficient performance of his professional functions? Doubtless many successful medical men may be pointed out who wholly lack familiarity with the classics; but this is no argument, since the majority, if not all, of these same men have attained their positions only through a lifetime of failures, representing so much labor wasted and capital lost. Looking at the matter from both sides, it will readily be discovered that the non-classical scholar is always at a disadvantage beside his classical brother. At the very outset of his study, (with his first text book) the former is compelled to consult, and at more and more frequently recurring intervals, the pages of his lexicon, and then commit to memory titles and words that to his more fortunate *confreré* are self-explanatory; and this does not end with anatomy, but instead continues throughout every step of his study, before and after graduation. At this day too, when our sources of medical knowledge are no longer confined to one language or one race, and pathological researches are daily adding new triumphs and discoveries, no lexicon can keep pace with scientific development, and the medical man devoid of classical knowledge is always in the dark, and obliged to await the tardy explanations that from time to time are vouchsafed him by his better educated brethren. It was but recently we heard Prof. Huxley urge a course in zoology as necessary to the embryo medical man, and likewise assert that comparative pathology and physiology are of inestimable value to him who desired to be a true medical scientist,—and this is more than true; yet the relations of zoological and biological science are relatively no greater to medicine than Latin, and the acquisition of knowledge in these branches is tedious and all but impossible without some knowledge of this language.

Emphatically, we do not believe that a man who possesses but one idea, and that the medical idea, can ever be a large-minded and progressive physician, and we should much prefer he should be ignorant of chemical incompatibilities than to discover from his conversation or writing that he is devoid of this form of culture, in favor of which nineteenth century prejudice, rightly or wrongly, runs. The classical standard represents some little approach towards a gentleman's education, and is something better than the manifest and despicable ignorance which would follow if Latin were wholly ignored. Moreover, it should be re-

membered that if medical students are compelled to give even a very little attention to classical subjects, a considerable number who would otherwise be totally ignorant, by choice or by circumstances will be led to acquire a good deal more than the necessary minimum of knowledge, while those who do not will afterwards subside into a stratum of the profession in which culture would be thrown away.

It is the plan of the utilitarian educationalist to fill the mind of the student with arithmetic, English grammar, geography, history, elementary chemistry, botany, and mechanics. These are all important, and the more the student knows of them the better physician he will be, so long as he also knows something else. But the committal to memory of declensions, arithmetical tables, names of places, historical dates, or chemical formulas, does little or nothing for the reasoning powers, and the physician might be an emporium of such knowledge and yet a most stupid practitioner, incapable of forming quick and accurate deductions; his reasoning powers are of even more importance than his memory, and these can never be enhanced by such studies; and for their development geometry takes the first place, the construing of languages the second, and logical ethics the third.

Finally, if Latin be excluded from medical education, will not the writing and understanding of modern English become infinitely more difficult? Professor Huxley is of opinion that "the worst and most debased kinds of English style are those which use Latinity." But as these worst and debased kinds, instead of the purer and simpler English, are the current coin, and as no one can intelligently read a sentence in any English, French or German book or journal, not even one of Prof. Huxley's papers, without coming across many words of Latin and Greek derivation, we fail to see that admiration of the purer style of our grandfathers should lead us to withdraw from the present generation the means of understanding what the latter read and wrote.

On the whole, while we reprobate the system, so universal in our colleges, of sacrificing all useful knowledge to Horace, Homer, and Latin versification, we most emphatically dissent from those views and propositions that would divorce medical study and the medical profession from all knowledge of classical subjects.

PSEUDO-PARASITISM—PARASITES IN URINE.

Dr. Geo. W. Lamar, of Quincy, Fla., writes:

Never having seen, read, or heard of a case similar, I would ask if any one can give me information as to treatment.

E. W. S., age, 33, says that twelve months after having been a subject of chills and fever for three years, he noticed on passing his urine, that it contained small worms varying in size from ¼ to ½ of an inch in length, and about as large around as a pin, perfectly white with a black head; after being in the air about two minutes they die. He passes from ten to fifteen at a time, and a greater number about 9 A. M. During the time of their passage he is troubled with frequent urinations; says that spring is the time of year when they pass, other seasons has no appearance of worms, but complains of intense pain in lower region of back, unable to lift any weight, etc. Appetite good, but languor and general failing health.

Pseudo parasitism is by no means an uncommon feature in medical practice. Was Doctor Lamar's patient of the opposite sex there would be little difficulty in making a diagnosis. As a matter of fact, no form of animal life can exist in the urine, or within the urinary viscus, not even spermatozooa; this has been repeatedly proven, and were it not, very little acquaintance with helminthology and the life histories of entozooa would be convincing.

In this case but two conclusions can be drawn —Either that the patient is himself deceived, or that he is *wilfully deceiving*.

Cases are numerous in literature, of patients led to believe their urine contained parasites, owing to the presence of lymph clots, concretions, epithelial threads, etc.; or owing to the accidental introduction into the chamber used of some form of larval life. In evidence of how easily one may be deceived, may be cited an experience of the writer:

One morning in May, while urinating upon a board in a retired corner of the stable yard, he suddenly discovered a number of small white worms, none more than three or four lines in length, upon the spot wetted. No attention was paid thereto, but the same occurrence the succeeding day led to an investigation. The result was that close observation revealed in dozens of places the minute eggs of some one of the *Diptera*, glued to the boards. The warm urine suddenly hatched them, and at the same time proved toxic.

It may be here mentioned that females suffering from *oxyuris vermicularis*, often find them in the urine, the migratory habits of the worm to the vagina and caruncles of the urethra being well known.

Patients willfully deceive who are victims of depraved sexual appetites. The story told by Doctor Lamar's patient is suspicious for several reasons: *First*, its definite circumstantiality: *Second*, the character of the symptoms, meagre though they be: *Third*, the claim that the "worms" are found *only in the spring*—the period of the year alone when larvæ are to be had! *Fourth*, the definite number (twelve or fifteen) of "worms" always observed.

Here is apparently a case wherein foreign bodies were introduced into the urethra with a specific purpose, presumably in connection with some morbid habit or appetite.—We say

apparently, since a carefully collated history of the individual, such as would be necessary to a correct decision, is not presented. As given, however, it recalls the famous case of Mr. Flower, who was for a time deceived thereby: A woman claimed to pass "flies" *per urethram*, and was wont to gravely assert that each extrusion of a "fly" with the urine afforded "wonderful relief." The facts, as subsequently ascertained, were, the woman suffered from neurasthenia of specific origin, and was accustomed to gather the imago forms of the *Aphrophora bifasciata*, or common "frog hopper," and introduce them into the urethra or her chamber. She too suffered "only in the spring."

The hexapodus larva of *Clerus formicarius* frequently figures as a urinary parasite, being, of course, wilfully introduced into the urethra or chamber with the specific intent of either deceiving, or deriving therefrom some form of titillation, or both. The fibro-vascular cellular tissue of celery often plays the rôle of the "worm," and would tally closely with the description given by Doctor Lamar's patient, though it is much more probable in this instance that the pseudo-parasites are the larvæ of some of the ordinary smaller *Diptera*. Also the capillary segments of the orange have been put to like use.

That Dr. Lamar has been deceived, reflects no discredit, for few physicians are familiar with entomology and the life histories of helminths and entozooa—knowledge that is essential to the detection of these frauds; some of the ablest helminthologists and entomologists have been for a time in like manner deceived in days past, though latterly the question has been forever set at rest, and it is known, as already stated, that a vesical or urinary parasite is a physiological impossibility. We would suggest close inquiry into the life and habits of E. W. S., and rigid examination as to his nervous and mental condition. He is certainly, wittingly or unwittingly, deceiving.

SURGEON-GENERAL J. H. BAXTER.

A notice of the nomination of Dr. J. H. Baxter as Surgeon-General U. S. A. appeared in the MEDICAL AGE for Sept. 10th, which we fear may be construed as a criticism of the Doctor's appointment. It was written by a gentleman connected with the AGE, formerly of the U. S. Army, whose association with other possible candidates for this position led him to champion their claims, and thus escaped the notice of the editor-in-chief, who, being better acquainted with Dr. Baxter, desires to say that any mention of Dr. Baxter made which was not complimentary to the attainments and experience of this distinguished officer was not intended.

Book Notices.

PRACTICAL THERAPEUTICS. By Hobart Amory Hare, B. Sc., M. D. Cloth; 8vo.: pp. 632; price, $3.75. Published by Lea Brothers & Co., Philadelphia.

This work is planned upon lines especially to meet the requirements of the under-graduate and newly fledged practitioner. As the author truly says, most works on therapeutics "treat of it as if the student was already a skilled physician or experimental pathologist." That the student is too often required to perform acrobatic feats of memory and invention in associating and reconciling widely separated statements, is certain, and disgust over his failure is apt to "develop him into a physician without faith in the reasonableness of his art." Dr. Hare has obviated this difficulty by comprising in one cover a work on therapeutics proper, and another on treatment, each part being so interwoven with the other by references that there will be the least possible difficulty in learning and remembering the nature of therapeutic resources, and in using them to the best advantage.

The portion devoted to treatment occupies at least one-half of the work, with clear directions for the therapeutic measures to be employed, together with the reasons for choice of drugs according to the varying stages and symptoms. Here the author has secured the assistance of gentlemen well known in connection with special subjects; thus: Dr. Barton Cook Hirst writes upon Diseases of the Puerperal State; Dr. Geo. E. De Schweinitz upon Diseases of the Eye; Dr. J. Howard Reeves upon Diseases of the Throat and Nose; and, Dr. Edward Martin upon Antiseptics and Venereal Diseases.

Non-medicinal as well as medicinal remedial agencies, excluding electricity which is now a specialty in itself, are dealt with. For reference is included a table of doses and of poisons and antidotes; and in order to make the book more complete, the preparations of the British Pharmacopœia are introduced. The convenient alphabetical arrangement of the volume is well supplemented by two copious indexes, one general, and one of diseases, with brief cross-references.

THE ESSENTIALS OF DISEASES OF THE EYE, NOSE AND THROAT. By Edward Jackson, A. M., M. D., and E. Baldwin Gleason, S. B., M. D. Cloth, 12mo. pp. 276. Price $1.00. Published by W. B. Saunders, Philadelphia.

This is a somewhat extensive title for a work of this class. The author of Part I in a prefatory note says, in deciding what to include as the "essentials," he has been guided by an acquaintance gained in post-graduate teaching with the "needs and desires of the mass of medical graduates." If this is true, medical graduates apparently "desire"

and "need" but very little. We are frank to admit, however, that for the space allotted, Dr. Jackson has compressed a considerable amount of valuable information. He "assumes, however, the student is familiar with anatomy, physiology, and general surgery." With equal propriety he might assume him also familiar with the ordinary laws of optics, and thus devoted the space given to this subject to eye maladies that are scarcely touched upon. Certainly no student or graduate should attempt to master ophthalmology without a knowledge of the laws of refraction as found in works of natural philosophy; if ignorant of that much, it is *prima facie* evidence he is unfit educationally to study medicine and surgery at all.

The author of Part II admits his work is "superficial," but believes "superficial information has its value to a beginner as a foundation for that more profound knowledge which only comes through years of extensive reading, thought, and actual work in the diagnosis and treatment of disease." The work, considering its self-assigned limits, is exceedingly well done, being aided in no small degree by illustrations for the most part of a superior character.

ANNOUNCEMENTS.—The seventh edition of "Da Costa's Medical Diagnosis" is now announced by the J. B. Lippincott Company as ready. The work has undergone a thorough revision at the hands of its eminent author, and many chapters have been entirely re-written, so as to inculcate all that has been added to our knowledge of disease up to the present time. A number of wood cuts are included, especially of such micro-organisms as have proved to be of practical significance in diagnosis. All the illustrations are original, and many are from sketches, or based on sketches, taken directly from cases of interest. There is no work more helpful to a young practitioner than this, one which has been pronounced by critics "the best book on diagnosis extant."

Another valuable book just issued by the J. B. Lippincott Company, is Prof. Garretson's Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and associate parts. Upon the appearance of the first edition many years ago, it assumed the leading place as a text-book, to which its merit and the distinguished position of its author entitled it. Much important matter has been added to the new edition, together with numerous illustrations, which greatly increase its value to dentists, surgeons, and physicians.

ACTION DE L'IODURE DE POTASSIUM SUR LA CIRCULATION. Par Claude-Marie-Alphonse Pierrot. Paper; square 8vo; pp. 40. Published by the Faculté de Médecine, at Nancy.

A thesis for the degree of Doctor of Medicine, in which the subject is well outlined, the conclusions arrived at being based upon clinical experimentation.

Notes and News.

Foreign Cholera Intelligence.—The cholera information from Spain during the past week has been much less detailed than during the few preceding weeks, and the only newly infected places specifically referred to are Cuenca and the outskirts of Madrid, where one or two attacks have occurred. According to the Spanish official returns, cholera has, since May last, caused 3,006 attacks and 1 535 deaths in 127 towns and villages in the provinces of Alicante, Bardajoz, Tarragona, Toledo, Valencia, and Madrid; and amongst the most recent occurrences reported are sixteen cases and ten deaths in the city of Valencia, one at Cuenca, and twelve cases with eight deaths at Toledo. Rumor has it that cases have occurred in Portugal, but no detailed information as to this is as yet forthcoming.

Cholera is still prevailing at the quarantine station El Tor, in the Gulf of Suez, and between the 26th and 31st of August thirty-nine new cases with eighteen deaths were recorded. Some cases are occurring at Jeddah, and the disease has broken out at Yembo. Mecca and Medina are reported to be free, and the mainland of Egypt still remains without any reported cases.

The outbreak of cholera in Japan seems to have assumed somewhat serious proportions, and it is reported that some 200 deaths a day are taking place there. At Nagasaki 926 cases and 671 deaths took place in twenty days, and the disease has spread to all the towns from Matsuma to Hakodate; some cases also occurred amongst the crews in Yokohama harbor, which was quitted by certain vessels, including H. M. S. *Impérieuse*, with a view of avoiding the epidemic.

Some half-dozen reputed cases of cholera have occurred in London and a few in distant towns; but on inquiry they all turn out either to be the ordinary cholera morbus which is seen every year at this season, or to have no connection at all with cholera in any form.

Plants in Sleeping-Rooms.—There is a popular belief that cut flowers or plants in living or sleeping rooms are apt to be injurious, owing to the continuous exhalation of carbonic acid gas from them. As regards living and growing plants there is but little foundation for the popular superstition. A writer in Amateur Gardening has recently shown that the air of a closed greenhouse, where more than 6,000 plants were growing, exhibited only 4.03 parts of carbonic acid per 10,000, this being the average of three experiments made early on three different mornings after the greenhouse had been closed for more than twelve hours. There was usually a slightly larger quantity of CO_2

gas present in the air by night than by day, but the excess by night was not more than 0.36 per 10,000. Judging, then, of the impurity of the air by its contained CO_2, the vitiation by means of growing plants, even at night, may be regarded as a *quantité négligeable;* and of course, the few plants usually found in ordinary sleeping-rooms would produce an infinitely less effect than the hundreds in a closed greenhouse. Whether cut flowers have a greater effect in producing carbonic acid than living or pot plants, the magazine writer does not tell us, but it is reasonable to suppose that some of the injurious influence attributed to flowers exhaling heavy or sweet perfumes in sleeping- or sick-rooms, is really due to the concealment by these perfumes of the accumulated offensive products of respiration or transpiration, which leads those who are exposed to their influence, or the attendants on the sick, to believe that the atmosphere of such rooms is fresh and wholesome, and therefore to neglect the usual methods of ventilation.

A Medical Imposter in a Vienna Hospital.—Considerable sensation has lately been caused in Vienna by the discovery that a "Dr. Peratoner," who had been formerly engaged in a bank, where he had been guilty of serious frauds, and who had never been a regular medical student, had, by means of a forged diploma of the University of Innsbruck, got himself admitted as an "aspirant" into the Wiedener, one of the three largest Vienna hospitals. He remained here for one year and a half without his medical ignorance being detected. About three weeks before his arrest he had been named "Secundararzt," or "Secundarius." It is stated that "Dr." Peratoner had never even passed the Maturitäts Prüfung, as it is called in Austria-Hungary, namely, a preliminary examination which must be passed before one can be admitted to a university. It should be explained that "Secundararzt," or "Secundarius," corresponds to the "house-physician" and "house surgeon" in England, and the *interné* of French hospitals, the only difference being that the functions of the former include both medicine and surgery. The members of the visiting staff are called Primarärzt or Primarii. It is still a mystery how a person with a forged diploma and with no real medical training should have continued to hold a responsible post in a large hospital, under the eyes of several leading members of the profession in Vienna, for a year and a half without detection. More will doubtless be heard about this remarkable case when "Dr." Peratoner is put upon trial, as he shortly will be.—*British Medical Journal*, July 5th, 1890.

A New Form of Breast Supporter.—I think it will be generally admitted that judicious, equable pressure applied at the proper time, will be found a valuable aid in the treatment of "acute puerperal mastitis," which German statistics state occurs in about 3.6 per cent. of lying-in women, the majority being primiparæ. Mastitis begins as a rule between the eighth and tenth day, lasts from three to five days as a rule, and subsides in about half the cases without suppuration.

On thinking over the subject it struck me that the gentle pressure of a spiral cone-shaped spring would afford the necessary support and compression of the glands without the addition of any bandage whatever, and without interfering in the least with the respiration, as all other appliances do. The use of these supporters should be combined with the application of lin. belladonnæ; and the exhibition of the usual saline purgatives with five-grain doses or more of iodide of potassium in mixture, will be found useful, both in these cases and also in those where the infant is lost or the mother declines to nurse.—Alexander Duke, F. K.Q.C.P.I., etc., Gynæcologist, Steven's Hospital, Dublin, in *Hospital Gazette.*

Death of Dr. J. Matthews Duncan.—The London Lancet announces the death of Dr. James Matthews Duncan, late Lecturer on Midwifery in St. Bartholomew's Hospital. Born and educated at Aberdeen, where he graduated as Doctor of Medicine, he attended medical classes in Edinburgh, and so distinguished himself as to be appointed assistant to Sir James Young Simpson, whom he greatly assisted in investigating the properties of anæsthetics; and he is said to have been the first person rendered insensible by chloroform. He came to London in 1877, having been invited by the authorities to act as Obstetric Physician to St. Bartholomew's Hospital, and as Lecturer on Midwifery in the medical school. At present it is sufficient to say that the medical profession has lost by his death, not only one of the brightest of its ornaments, but one of the most upright and straightforward among its many eminent men.

A Blow at the Bagpipe.—

A dentist, it seems, has discovered
That those on the bagpipe who play
Run a very great risk of promoting
A premature dental decay:
Nay, the mouthpiece so scrapes the enamel,
And injures the structure beneath,
That he states that continuous piping
Is terribly bad for the teeth!

'Tis well; that the piper should suffer
Is nothing but fair, I am sure;
But what of the innocent victim
Who has to his piping endure?
'Tis surely high time that some doctor
Should answer this question most grim,
And tell us, respecting the victim,
The effects that the pipes have on *him.*

—*Medical Record.*

Knew the Temperature without a Thermometer.—The Doctor—"You must take due precaution in bathing the child. Be sure and judge the warmth of the water by the thermometer!"

The Nurse—"The thermometer! Why use that thing? I can tell whether the bath is too warm or too cold without it!"

The Doctor—"How can you tell, nurse?"

The Nurse—"How? Why, if the baby comes out of the bath-tub *blue*, the water is cold; if it comes out *red*, the water is hot. It is very simple when you understand that the baby itself is a good enough thermometer."—*Lancet and Clinic*, August 30th, 1890.

The American Rhinological Association will hold its Eighth Annual Session at Louisville, Ky., Oct. 6th, 7th and 8th. All the leading subjects relating to Nasal and Naso-Pharyngeal diseases will be opened for discussion by a leading Fellow of the Association. The medical profession is cordially invited to attend. The Secretary, Dr. R. S. Knode, Omaha, Nebraska, will furnish any information to physicians desiring to become members.

Tri-State Medical Association Meeting.—The Second Annual Meeting of the Tri-State Medical Association of Alabama, Georgia and Tennessee will be held in Turner Hall, Chattanooga, Tennessee, on October 14th, 15th and 16th. It promises to be one of the most successful, profitable and entertaining meetings ever held in the South.

A Sanitary Convention will be held at Holland, Michigan, under the auspices of the State Board of Health—arrangements having been made by a local committee of citizens of Holland, acting with a committee of the State Board—on Thursday and Friday, October 9th and 10th, 1890.

Investigation of Nutrients in England.—This is at present pursued on a large scale. In the year 1889, according to statistical evidence, 26,344 analyses were undertaken by 136 chemists, and the percentage of adulterated products calculated at 10.8, while in 1882, 15.5 per cent. had been estimated.

Pyoktanin is said to be useless by Dr. Kölliker, of Strassburg. Dr. Braunschweig calls attention to the disagreeable symptoms of irritation which are produced, and to the small degree of success he obtained with it.

James A. Lydson, M. D., Ph. G., late chief of Eye and Ear Department, Pension Bureau, Washington, D. C., has been elected to the Chair of Chemistry in the Chicago College of Physicians and Surgeons.

Therapeutic Brevities.

Antiseptic Cement for Promoting Bony Union.—The Berlin correspondent of the Therapeutic Gazette (August 15th) writes of Prof. Thomas Gluck, the newly elected Director of the Children's Division of the Kaiser and Kaiserin Friedrich's Hospital, and of the methods of promoting the union of bony surfaces, by pegs and by an antiseptic cement:

A cement has been used by Professor Gluck to unite the smooth or rough ends of bones to each other. The serrations are touched with the thermo cautery at a white heat, and the cement, being spread upon the opposed surfaces, the two ends are then united as quickly as possible. This cement becomes as hard as glass in about two and a half minutes after cooling. Moreover, it can be used not only as a method of uniting bones, but also for packing cavities in them, and it is thus possible to cement a foreign body into the substance of a bone with perfect safety. If, later on, this antiseptic cement forms a hard ring at the point of union, it will behave just like any other trivial osseous enlargement, but with this fundamental distinction, that it is called upon to play an important part in definitely contributing towards forming the fixidity of the would-be joint, and also that this immobility is obtained in a careful and systematic manner. In fourteen cases of joint-disease, in which resection was indicated, Professor Gluck has, as a rule, resorted to his method by invagination. In each instance the apparatus has been rendered antiseptic, and recovery has been obtained without inflammation. We have, moreover, to mention in these cases the absolute freedom from pus in the parts concerned, under antiseptic treatment; the perfect immobility of the union; the immediate recovery of the original length, as well as the nearly natural subsequent growth of the limb, which is always so desirable in orthopædic operations. In addition to the safe union of such foreign bodies, as the ends of different bones, this method allows every conceivable mode of treatment, and the use of any apparatus, as well as its own applicability to troubles in all parts of the body, whether resulting from diseases of the osseous system, dislocation, or ununited fractures.

New Treatment of Tuberculosis by the Vaccine Method.—On November 19th last Drs. J. Grancher and St. Martin addressed to the Académie de Médecine a sealed packet relating to a method of treatment and preventive inoculation of tuberculosis based upon numerous experiments which they had made on rabbits. The communication made by Dr. Koch to the Berlin Congress (of which the full text was published in the British Medical Journal of August 16th), concerning the results which he has obtained in rendering Guinea-pigs refractory to tuberculosis, or in curing them of advanced forms of tuberculosis, has induced MM. Grancher and Martin to make known their researches on the same subject earlier than they would otherwise have done. In all these experiments they chose the rabbit as the subject

of inoculation and intravenous injection, because there is thus produced a tuberculosis which kills very quickly and at an almost fixed date, with constant lesions of the liver, the spleen, and the lungs, and which defies all local treatment. Tuberculosis thus induced being always fatal, a solid basis is thus secured which allows exact appreciation of the negative or positive results of any method which tends to produce the refractory state, or to cure after infection. The method employed by MM. Grancher and St. Martin was the injection of tubercular cultures attenuated in various degrees. Nine degrees of attenuation have been obtained, the four last being such that the cultivations remained sterile. The injections were made first with the most attenuated cultivations, and then with more and more virulent ones. The authors consider that by this method they have succeeded, on the one hand, in conferring on rabbits prolonged resisting power against the most certain and the most rapid experimental tuberculosis, and, on the other hand, in conferring an immunity against that disease, the duration of which remains to be determined.—*British Med. Journal*, Aug. 30th, 1890.

Atropine as an Antidote to Cyanide of Potassium.—A man in Halle recently took a considerable quantity of cyanide of potassium in solution, for the purpose of committing suicide. In order to be quite sure of attaining his object he also swallowed a solution of Atropine. He was attacked by fainting fits, in consequence of which he was taken to the hospital; but on the following day, though no other antidote had been given, he was quite well. The Pharmaceutische Zeitung and the Deutsche Medicinische Zeitung, which publish the case, mention that Atropine has before been recommended as an antidote in cases of poisoning by cyanide of potassium.

[It should be remembered that a large proportion of the cyanide of potassium found in shops is inert—at least non-toxic. This fact has led many to believe the drug not at all poisonous.—Ed.]

Bi-Chloride of Mercury in Cholera.—Yvert, military physician at Tonquin, has submitted to the Academy of Sciences a report on the treatment of cholera. According to him, the average mortality of patients attacked was 66 per cent. As a result of treating with Bi-chloride of Mercury (0.02 to 0.04 gramme in 24 hours) it was reduced to 20 per cent. He administered the same remedy to troops that had recently arrived at infected districts, and amongst those thus preventively treated, none were attacked by the cholera. The Academy resolved to refer the report to the Epidemic Commission for thorough investigation.—*Pharm. Post*, Aug. 17th, '90.

Hydrastis Canadensis in Dysmenorrhœa.—Dr. Bigmio, Csanad-Palota (Hungary), reports a case of very severe dysmenorrhœa, with a three year history, which he cured completely in a short time by means of the fluid extract of Hydrastis Canadensis.—*Internationale Klin. Rundschau*, Aug., 1890.

Medical Progress.

The Conditions of Success in Cataract Extractions.—In a paper on the conditions of success in cataract extractions, published in the Lyon Médical, July 20th, 1890, Dr. Grandclement makes the following observations:

"Statistics show that out of one hundred cases of cataract extractions, about five patients lose the eye by suppuration of the cornea, iritis, or plastic iridochoroiditis). Moreover, half of the ninety-five patients operated on with success only recover partial vision; a fifth, a fourth, or half of the normal acuity. Would it not be possible to improve upon these results, so as to prevent the fine eyes from being irrevocably lost, and to diminish still more the number of cases in which only imperfect results in vision are obtained?"

After thus expressing himself, the author firmly and openly affirms his belief that the results to which he draws attention can be improved upon. He thinks that the enforcement of rigorous antiseptic principles would be enough to dispose of the cases of suppuration and infection; as to this fact there cannot be two opinions. The plan he adopts of giving effect to antiseptic measures is first to bathe systematically the eye to be operated on with a one-in-one thousand sublimate solution for four or five days preceding the extraction. The conjunctival *cul-de-sac* of most eyes, even those which appear to be healthy, affords cover to pyogenic staphylococci; and morbid germs can be introduced into the interior of eyes by means of instruments, and in weak and delicate persons are prone to work evil effects. It is important, therefore, to annihilate all micro-organisms before the operation, and absolutely sterilize the field of operative procedures. Under the influence of full antiseptic precautions as here indicated, an eye scarcely shows any redness after an operation. The corneal wound heals in from thirty-six to forty-eight hours, and all untoward complications are avoided. After the tenth day the patient can be considered convalescent.

In order to secure in all cases the best visual acuity, or at least the best that is possible, it is essential to bear in mind the two following precepts bearing upon the *technique* of the operation:—(*a*) The complete removal of the lens, even the anterior capsule of the lens if possible: (*b*) Not to allow the iris, excised or not, to remain engaged or adherent in the wound, after the completion of the operation.

With the object of expelling all the lens-substance, a large section should be made capable of permitting the lens to escape at one time. One is never likely to repent making too large a section, provided the latter is clear of the ciliary body; but it has often happened that too small a section has been made. The opening, too, in the capsule should be large; the capsule should be incised not only crucially, but all round, so as to involve the entire papillary margin. Again, all the visible particles of lens-matter in the anterior chamber should be removed by manipulation and massage, alternating with intra-occular injections. These injections should consist of distilled water.

All this having been done, and before closing and bandaging the eye, the surgeon must pay

especial attention to the iris, returning it into the anterior chamber if it has not been excised, and pressing back from the corneal wound the angles of the excised portion, if excision has been done.

The author, then, makes some remarks upon the complications likely to arise in consequence of the iris being confined in the corneal wound, and refers to the statement that this condition of things may be the means by which septic germs may gain entrance to the eye, even after a long period subsequent to the operation, the germs in question being contained in the secretion of the conjunctival sac. By following out the details above described, he continues, the progress of repair and recovery after cataract operations will take place without incident. All that is necessary for after-treatment is a few drops of atropine and a weak solution (1:4000) of sublimate, the patient attaining convalescence at the end of a fortnight. In cases of opaque capsule obstructing vision, needling should be done two months after extraction.

Upon the subject of operating upon cases of immature cataracts, he observes that formerly he avoided doing extractions under such condition, for the same reasons which have deterred other surgeons doing so; but, in the present day, thanks to the use of intra-occular injections, alternating with well-applied massage at the time of operating, he does not hesitate to extract immature cataracts, and his results, he declares, are just as satisfactory as in those in which the cataracts are fully matured. The extraction process is more troublesome in the former than in the latter case—that is all. In his opinion, nothing proves more plainly that an immature cataract can be safely extracted than the fact that some surgeons have successfully performed extraction, in cases of absolute transparent lenses, in patients with progressive myopia. Under these circumstances of operating, the intra-ocular injections are undoubtedly of great service in removing mechanically, automatically, the visible and invisible *debris* of a lens which is more or less transparent.—H. Percy Dunn, F. R. C. S., in *London Medical Recorder*, Aug. 20th, 1890.

After-Treatment in Cataract Operations.—About four years ago reference was made in these columns to an innovation introduced by Dr. Chisholm, of Baltimore, in the after-treatment of patients subjected to operation for the removal of cataract. The feature of this modification consists in permitting free access of light to the injured eye instead of confining it by bandages and restricting the patient to a darkened room, and Dr. Chisholm is now able to report in favorable terms of his method of procedure after an experience extending over several hundred cases, his conclusion being that that the weakness of the eyes operated on is not so much the result of the operation as of the after-treatment to which they are subjected. Good, healthy eyes, kept in darkness for one week are, he asserts, unable to stand the light when exposed to it, while eyes that have never been in the dark exhibit no such irritation. The plan which Dr. Chisholm pursues after extraction has been performed is to place on the cornea a few drops of a three per cent. solution of eserine, three grains to an ounce of water, whereby decided and protracted contraction of the pupil is secured. Both eyes are then temporarily closed, and over the one from which the cataract has been removed there is placed a strip of salicylated, soft silk isinglass plaster, an inch and a half long and one inch wide, which extends from beneath the brow well down upon the cheek. Being less wide than the lids it leaves a ready means of escape for secretions at the angular margins, as well as permitting the instillation of eyedrops without removal or displacement of the plaster. This plaster dressing is quite diaphanous, and being also extremely thin it is easily adapted, when damp, to the surface irregularities by gentle pressure with a special spoon-shaped spatula. About eight days suffice for complete healing of the corneal wound; and after this time has elapsed the slight plaster dressing is removed, the patients in the interim being permitted to rise daily at their usual time, make their own toilets, see and converse with friends, and partake of their customary food. The room in which the invalid is during this period of healing is merely shaded from the full light of day by a toned blind, which after eight or ten days is gradually raised; and at the end of two weeks it is usually found that there is complete tolerance of ordinary daylight, while the patient is able to go about the house with comfort, provided only that he avoids the full rays of the sun. In many cases even this amount of illumination can be borne, and Dr. Chisholm states that any light that is not too uncomfortable to the eyes will not be injurious. There can be no question of the advantages to be derived from such an improvement on older methods of treatment in these cases, the freedom from restraint, and relief from the uncomfortable restrictions necessitated by the usual plan of bandaging and confinement to a darkened chamber being plainly beneficial to the patient if it can be resorted to with safety. That this may be trusted to be the case Dr. Chisholm's article in the New York Medical Record goes to prove, and the success he has obtained has already led to the adoption of his suggestions by other operators, though there are not as yet any large number of published observations confirmatory of the results he has achieved.—*Med. Press and Circ.*, Aug. 20. '90.

Prostatic Hypertrophy.—Dr. Enrico Bottini, of Pavia, descibes the method for relief of this condition, which he had first published in 1877, and had since modified and improved. There were two distinct operations, according as the object was to remove wholly the enlargement, or simply to cut a groove for the passage of the urine. The first is affected by means of a Galvano-cautery of such strength that the entire operation can be done within a few minutes at a single sitting. The author now uses a storage battery, charged from a dynamo, which is powerful enough to raise pieces of platinum of considerable size to a red or white heat almost instantly. The cauterizing apparatus resembles a Mercier's sound somewhat. It consists of four parallel tubes, two of which are for the wires, and the other two for the purpose of conducting a stream of

water to keep the instrument cool. The cautery proper consists of a U shaped ribbon of platinum passing over a small porcelain cylinder, which serves at the same time for a support and to retain the heat The instrument is introduced into the bladder and then withdrawn, so that the cautery rests against the the third lobe of the prostate. The electrical current is then turned on, and the gland is burned. Often the burning tissues can plainly be heard sizzling. The patients do not complain of any severe pain during the operation. Care must be taken on withdrawing the instrument not to tear away the eschar, as there is then some danger of hæmorrhage.

The incisor apparatus resembles Mercier's instrument, except that the cutting part is of platinum instead of steel. The operation consists in three parts, namely, introduction, incision, and withdrawal. The introduction is effected in the usual way, then the current is turned on and the knife pressed against the tissue to be cut through. When the sound of the burning tissue is plainly heard, the knife is to be moved gently back and forth until the projecting lobe is thoroughly divided. Then the knife is concealed in its sheath, the instrument pushed forward into the bladder to insure that it is not caught anywhere, and then withdrawn. As to a choice between the two operations, the author thought that the total destruction of the obstructing lobe was advisable when the hypertrophy is not very great, but that in advanced cases it would be better to cut through it. Either operation would be contra-indicated when kidney disease was present, or even suspected. Dr. Bottini had operated after this method on 57 cases, 2 of which had resulted fatally; these, however, were during the early days of the operation, before the instruments had been brought to their present state of perfection. In 32 cases a perfect cure had been obtained, in 11 there was an improvement, and in only 12 was no benefit observed. These results in the case of an affection which was so rebellious to ordinary treatment were a powerful argument in favor of the method, and the author hoped soon to see it adopted more generally by surgeons than it had yet been.

Mr. McGill, of Leeds, said that it was necessary to work here in the dark, and he thought therefore that the operation was inferior to cystotomy, the results of which under improved technique were extremely favorable.

Mr. Bruce Clark, of London, had been much interested in Bottini's method. One operation of this kind in his hands had resulted successfully, but others, performed later, had failed. The cause of the failure was that changes had occurred in the hypertrophied gland which it had been impossible to discover. In order to know with certainty what has taken place in in the bladder a cystotomy is necessary. In many cases, however, in which one thinks that he has to do with an hypertrophied prostate, the gland is simply inflamed, and will return to its normal size in a short time without any further treatment.—Proceedings of International Medical Congress; *Med. Record*, Aug. 30, '90.

THE RELATIVE GERMICIDAL POWERS OF DISINFECTANTS. — According to some researches carried out by a Berlin bacteriologist, even corrosive sublimate is not the powerful and absolute germicide that it is supposed to be, and his observations bearing thereon are interesting, because only the possession of undoubted antiseptic properties can be held to justify the use of such a dangerously-poisonous agent. He found, for instance, that the vitality of anthrax spores under certain circumstances was not destroyed even after twenty minutes' immersion in a one per thousand solution of the salt, and animals inoculated therewith died of splenic fever. The inefficacy of solutions of carbolic acid has long been proclaimed, and in the course of his researchs this observer found that after thirty-eight days' immersion in a seven per cent. solution of the acid, anthrax spores were still capable of growth and of infecting animals. With respect to boiling water, one minute's immersion was totally inadequate to prevent further development, and two minutes did not preclude the cultivation of the spores in agar. It was only after five minutes boiling that their career appeared to be cut short. It is a curious point that in the case of boiling water the spores would grow after they had proved harmless to animals, whereas with sublimate the opposite occurred. The loss of power to develop, therefore, does not involve the inability to infect animals, and the latter test has, therefore, been made the criterion of perfect disinfection. Passing over the details, he found that chlorine was by far the most reliable disinfectant and germicide, a watery solution containing a 00.2 per cent. of the gas, destroying in fifteen seconds the infectiveness and power of growth of the bacilli. To cleanse the hands he recommends a paste consisting of a hundred parts of "chloride of lime" with forty-five of water, to be smeared on as with an ointment, the hands to be then rinsed in a 2 per cent. solution of hydrochloric acid.

The great objection to conclusions based on the foregoing observations is that the experiments bore on only one variety of micro-organism, and we have no sort of assurance that the bacilli with which we have more commonly to deal are correspondingly unamenable to the various germicidal agents.—*Med. Press and Circular*, Aug. 20th, 1890.

A NEW OPERATION FOR CANCER OF THE RECTUM.—Dr. Axel Iversen, of Copenhagen, presented a communication on this subject to the Tenth International Medical Congress, as follows:

One can never know with certainty whether the disease is limited to the rectum or whether the neighboring glands are also involved, and it is difficult to settle the question as to whether an operation is indicated. Colotomy will relieve for a certain time, and often, indeed, for a long time, the symptoms dependent upon the co-prostasis, but it does not help the pain nor reduce the fœtid secretion. The want of a more radical operation for the relief of this terrible disease is therefore still urgently felt. It is known that cancer of the rectum often remains stationary for a long period, and the author had made autopsies on 47 long-standing cases, in 21 of which there had been no metastasis. This fact gives hope of success from a radical operation. In judging of the latter we need not consider

the direct mortality so much as the tendency to a return of the disease. The author then presented statistics of 247 cases of operation for rectal cancer performed in the Scandinavian countries, which showed only a very small number of patients who had survived the operation for several years without having had a local relapse. The results of extirpation were slightly better, as regards prolongation of life, than those of colotomy, but they were little or no better in respect to relief from pain. The author then spoke of the different methods at present in favor, showing wherein they were defective. He thought too great an effort had been made to preserve continence of fæces, and the operations had therefore not been radical enough. The surgeon should not hope for too much—the essential thing is to make the operation a radical one. A partial operation should be undertaken only when the disease is strictly limited to the anus. In every other case, if one is to operate at all, it is necessary to perform total extirpation of the rectum, making a permanent artificial anus in the sacral region. Unless this is done, it will be impossible to remove all the glands which are liable to be infected. The extirpation of the tissues surrounding the intestine is also necessary, as here are often located the "seedling" cancers. The operation is performed as follows: After a preliminary Kraske operation, with or without resection of the sacrum, oval incisions are made surrounding the anus, and then the rectum is dissected out from below upward, care having been taken to tie a ligature around the anus in order to prevent escape of the contents of the gut. All the presacral connective and adipose tissue is then removed. Next the peritoneum is opened and the intestine drawn down. Now the intestine and the parietal layer of the peritoneum are stitched.—*Med. Record*, Aug. 30th, 1890.

Use and Effects of Sunflower in Malarial Fevers.—At a recent meeting of the Moscow University Physico-Medical Society, Dr. N. Filatoff read a very interesting paper in which he warmly advocated the treatment of malarial fevers by the internal administration of the Sunflower (*Helianthus annuus*) in the shape of a tincture, which may be prepared after the following two simple methods: 1. One part of minced dry stems (or recent stems with flowers) of the plant, and eight parts by weight of *vodka* (whiskey), are put into a well-corked bottle and left to stand at a sunny place for six days, after which the contents are thoroughly strained through a piece of linen. 2. The other method consists in similarly treating one part of the herb with five parts (by weight) of spirit of wine. The tincture is administered —to children from ten to fifteen drops, to adults a small wine glassful—three times daily. According to the author's experience, the Sunflower affords an invaluable substitute for quinine; in fact, it is said to be superior to the latter, as far as the treatment of intermittent fevers is concerned; since (*a*) it cures in five or seven days such cases in which quinine and arsenic have proved entirely inefficacious; (*b*) in such cases where no quinine (or arsenic) has been previously tried, the Sunflower proves to be, to say the least, as effective as quinine; (*c*) the remedy strikingly improves appetite, the patient rapidly gaining flesh, and growing stronger under its influence; (*d*) the remedy is exceedingly cheap and easily accessible everywhere; (*e*) it is totally free from the slightest disagreeable accessory effects; (*f*) it has a pleasant taste, which is especially advantageous in infantile cases.

[The Sunflower, an exceedingly common plant all over Russia, has been regarded as a sovereign anti-malarial remedy in the Russian (as well as Hindu, Persian, and Turkish) popular medicine, from time immemorial.—Ed.]

Neurasthenia and Nasal Disease.—The causes of neurasthenia, obscure as they are, are not to be sought in some slightly abnormal condition of an organ such as the nose; and to imagine that local treatment of this, or indeed of any individual organ, is going to reward us with successful therapeutic results, is to subject ourselves to such failures as Dr. More Madden very honestly has recorded. Many women live only for the gynæcologist, and though we would not for a moment impute such conduct to members of a noble profession, there is no doubt that gynæcology, in some unscrupulons hands, has not been free from chicanery in a class of patients in whom the loss of nervous control, which is the essence of neurasthenia, has rendered them ready agents to such practices. It would be a thousand pities were rhinology to incur the same reproach. To remove a vital cause of irritation is right and proper, but to assert that the slight pathological abnormalities met with in many nasal organs, even when they are accompanied with nasal catarrhs, is in a real proportion of neurasthenic individuals a potent cause of their troubles is, we think, to take up an untenable position. Those who, in such cases, look only to intra-nasal surgical treatment, and fail to appreciate the necessity of getting behind these apparent symptoms, and treating the general nervous system as of primary importance, will be doomed in their specialistic narrowness to failure. To say that such treatment, even if it does no good, will do no harm, is not correct. Very great aggravation of the patient's sufferings may follow injudicious and meddlesome interference. It is in neurasthenic patients, of all others, that we should exercise the very greatest discrimination in recommending or carrying out surgical treatment.—*Journal of Laryngology and Rhinology.*

Sulphonal Exanthemata.—After taking one gramme of sulphonal, an elderly lady exhibited, without the appearance of fever, a compound, scarlet-red erythema, extending over both ear lobes and consisting partly of very uniform, and partly of dense, clusters of dot-like spots. Aside from the slight burning, this erythema gave rise to no local or general disturbances. After the lapse of five days, the exanthema which had gradually assumed a more bluish-red tint, without desquamation, disappeared.—Dr. Schotten in *Centralblatt f. die Med. Wissenschaften.*

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Original Articles.

NEWER PHYSIOLOGY AND PATHOLOGY.*

BY PROF. SAMUEL BELL, M. D.

Physiology has for many decades been a science founded on experiment, and pathology has been rapidly pressing forward in the same direction. To read the accounts of how certain conclusions have been arrived at in the laboratory, by ingenious devices and by skillful manipulations, is as fascinating as any tale of adventure.

When the microscope began its work, how discouraging was the vastness and complexity of the discoveries which it brought to light; how many years has it been diligently used, and how uncertain are we still about many of its revelations! But what a happy conjecture of man; and as proper environment takes place we may reach better results! Let me give an illustration:

Some thirty years ago, Virchow began his studies and lectures upon cellular pathology. The enthusiasm which he awakened spread over the whole medical world. The wonderful attention to detail, the broad philosophy which signalized his observations, were alike remarkable. His class-room was packed with students from every country, who thought it no hardship to struggle for a seat at eight o'clock in the morning. With his blackboard behind him and specimens of pathology before him, and microscopes coursing upon railway tracks around the tables which filled the room, he was the embodiment of the teacher; his highest honor was as discoverer. The life and importance of the cell, both in health and disease, it has been his work to discover and to teach. The point of view from which he has classified tumors is founded on this basis, and remains the accepted method. The light which he cast upon the nature of inflammation has not yet been obscured, and while other phenomena appear, the multiplication of cells and nuclei and the formation of connective tissue in the process of inflammation, will always call to mind his labors.

To one of Virchow's pupils, Prof. Recklinghausen, we chiefly owe our knowledge of the phenomena of diapedesis as a part of the inflammatory activity. How incredible it seems that masses of living matter can make their way through the walls of blood vessels which do not rupture and which have no visible apertures.

Virchow fixed his attention upon the forms and activities of the cells, their multiplication and degradation, and how they build up tissues, both healthy and morbid.

To another matter with which, both literally and metaphorically the air is filled, we must also make allusion. The existence of microorganisms in countless numbers is no new fact, but the influence they may exert over living tissues has only lately become the subject of earnest attention. So long as they were not known to have any practical bearing upon human welfare, they interested almost nobody; but when, however, it was shown that putrefaction of meat is due to the agency of the *bacterium termo*, and the decomposition of albumen to the *bacillus subtilis;* when anthrax in cattle and sheep was found to depend on the *bacillus anthracis*, and that in human beings it caused malignant pustules; when suppuration of wounds was found to be associated with micrococci; and when it was announced that by a process of inoculation cattle could be protected against anthrax, and that by carbolic spray and other well known precautions the suppuration of wounds could be prevented—all the world lent its ears and investigation at once began.

Because labors in bacteriology promised to be fruitful in practical results, the workers speedily became innumerable, and we are accumulating a wonderous store of facts. How long now is the list of diseases in which germs make their appearance—in pneumonia, in endocarditis, in erysipelas, in pyæmia, in tuberculosis, and so on, and so on. One of the most striking illustrations is the gonococcus of gonorrhœa, whose presence in and around gives to the pus cells their virulent properties, and when transferred to the eye work such lamentable mischief. Without their existence the inoculation of pus in the healthy eye is harmless; pus bearing the gonococci excites the most intense inflammation. Similar suppurative action in the cornea is often caused by infection of cocci. The proof of causation may be found in the fact that the most effective cure now practised for such suppurations is to sterilize them by the actual cautery. Rosenbach says that he knows six distinct microbes which

* Delivered at the beginning of Session 1890, of the Michigan College of Medicine.

are capable of exciting suppuration in man. Their activity may be productive of a poison, or putrefective alkaloid, which is absorbed.

There are at present two prominent theories in regard to the infections which produce disease. The first is based upon chemical processes; the second upon the multiplication of living organisms. The chemical theory maintains that after the infectious element has been received into the body it acts as a ferment, and gives rise to certain morbid processes, upon the principle of catalysis. The theory of organisms, or the germ theory, maintains that the infectious elements are living organisms, which, being received into the system, are reproduced indefinitely, and excite morbid processes which are characteristic of certain types of disease. This latter theory so readily explains many of the facts connected with the development and reproduction of infectious diseases, that it has been unqualifiedly adopted by a large number of investigators. The proofs of this theory had not, however, advanced beyond the demonstrations of the presence of certain forms of bacteria in the pathological changes of a very limited number of infectious diseases, until February, 1882, when Koch announced his discovery of the tubercle baccillus, since which time nearly every disease has its supposed microbe, and the race is, indeed, swift in which the would-be discoverers press forward with new germs for public favor.

The term bacteria or microbe refers to particles of matter, microscopic in size, which belong to the vegetable kingdom, where they are known as fungi. If we examine a drop of stagnant water under the microscope, amplifying say four hundred diameters, we see it loaded with minute bodies, some mere points, others slightly elongated into rods, all actively in motion and in various positions, a countless confusion. If evaporation now takes place, all is still. If we now apply moisture, the dried-up granules will show activity, as though they had not been disturbed.

All these different organisms have become familiar to us under the generic term bacteria, which is a very unfortunate application, as it really applies to only a single class of fungi. Cohn, calls them schizomycetes, and makes the following classifications:

1. *Sphero-bacteria*, or microbe.
2. *Micro-bacteria*, or bacteria.
3. *Desmo-bacteria*, or bacilli.
4. *Spiroteria*, or spirillæ.

The *sphero-bacteria*, or micrococci, is the simplest of the fungi, and appears as a minute organism of spherical form. It multiplies by fission, a single coccus forming two, these two producing four, and so on. They present a variety of appearances under the microscope; from single isolated specimens (which under the highest magnifying power present nothing beyond minute points) you will observe them in pairs, again in fours, or in clusters of hundreds (forming zoöglea) and still adhering together, forming chains. When a given specimen is about to divide, it is seen to elongate slightly, then a constriction is formed, which deepens until complete fission ensues.

Micrococci possess no visible structure. They consist of a minute droplet of protoplasm (mycoprotein) surrounded by a delicate cell-membrane; certain forms are imbedded in a capsule (diameter .0001 to .0008 millimetre).

These little organisms, when observed in a fluid like blood, sputum, etc., are found to present very active movements although provided with no organs of locomotion. This Brownian motion is possessed by almost every minute particle of matter organic and inorganic, and is not due to any inherent power of the individual. They are also almost omnipresent, abounding in the air, the earth, the water; are always found in millions where moist organic matter is undergoing decomposition, and are associated with the processes of fermentation—in fact, they are essential to it. The souring of milk succeeds the multiplication of these germs. Certain varieties are pigmented, and we observe colonies of chromogenic cocci multiplying upon slices of boiled potato, eggs, etc., presenting all the colors of the rainbow. All of these germs are not the cause of disease; certain species, however (termed pathogenic), are always associated with certain diseased conditions.

The *bacterium-termo* — micro-bacteria — are slightly elongated, and inasmuch as they multiply by division frequently appear coupled together, linked in pairs, and in chains. They are generally found in putrefying liquids, especially infusions of vegetable matter. They possess mobility to a remarkable degree. Observing a field of bacterium-termo under the microscope, they may be seen actively engaged in twining and twisting. A flagellum has been demonstrated as attached to one or both extremities. This is too minute to be generally resolved, even if it is a common appendage.

Desmo-bacteria (or bacilli) are rod-like organisms, occuring of various lengths and different thicknesses. In a slide of the bacillus of tuberculosis and anthrax, we notice at intervals dots which represent the spores from which, as the rods break up, future baccilli are developed.

Then we have *spiro-bacteria*, the spirilla and the spirochetæ; the former having short open spirals, the latter long and closely wound spirals. The *spirillum volutans* is often found in drinking water, and in common with some other specimens of this class is provided with flagilla, sometimes at both extremities, which furnish the means of rapid locomotion. The spiro-bacteria multiply by spores, although

little is at present known of their life history. They frequently are attached together at their extremities, forming zig zag chains.

We have seen that bacteria differ greatly in appearance from the elongated dot of the bacterium proper, to the elongated rod or cylinder of the bacillus and the long spirals of spirobacteria. It is unfortunate that they are not sufficiently constant in habit to always attach themselves to one or the other of these genera. The micrococcus has a habit of elongating at times until it is impossible to recognize him except as a bacterum; while bacilli, again, break up until their particles exactly resemble micrococci. Bacteria cannot exist without water; certain forms required oxygen, while others thrive equally well without it; some thrive in solution of simple salts, while others require albuminoid material.

Bacterology, with its relation to the science of medicine, is of importance to every investigating physician; it covers our knowledge of the relation of these minute organisms to the ætiology of disease. What has been gained as to practical application in the treatment of disease? This question is not unfrequently asked in a sneering manner. We can in reply say, that the results, are not all in the future. It is encouraging that results have been attained, which have had a very important practical bearing, and that these complaints come generally from individuals least acquainted with scientific investigations in bacteriology.

In the study of the relation of a given bacterium to a certain disease, it becomes necessary to attend carefully to three different operations: First, the organism supposed to cause the disease must be found and isolated: Second, it must be cultivated through several generations in order that absolute purity may be secured: Lastly, the germ must be again introduced into a healthy living being. If the preceding steps be carried out, and the original disease be communicated by inoculation, and the germs be again found in the diseased body, we have no alternative; we must conclude that we have ascertained the cause of the disease. The importance of being familiar with the ætiology of the disease before we can expect to combat it with any well-grounded hope of success, is evident.

If the sputum of a phthisical patient be submitted to the skilled microscopist, he is nearly always able to demonstrate bacilli; but this goes for very little. Because bacilli are found in phthisis, it is no more certain that they are the cause of phthisis than it is certain that cheese mites are the cause of cheese. Well, suppose we were to inject sputum from a phthisical person into the lower animal and tuberculosis follows, and then announce to the profession that we have demonstrated the relation of the cause and effect between bacilli and phthisis? Why we start such an uproar of objections as would speedily convince us that there was much work yet in the domain of bacteriology.

The scientific investigators would say you have injected with the sputum into the blood of your unfortunate patient, pus, morphological elements, and perhaps a half a dozen other forms of bacteria, any one of which are just as likely to produce the disease as the bacillus you have selected.

The first important step is, first isolate your bacillus. If I were to take a glass plate, one side of which is coated with a thick solution of peptonized gelatin, and allow the water to collect, the gelatinous matter will become solid. If now, with a wire dipped in some tuberculous matter, I draw a line along the gelatin, I have deposited at intervals along this line, specimens of tubercle bacilli. If this plate be now kept at a proper temperature, after a few days, wherever the bacilli have been caught, a grayish spot will appear, which, easily seen with the naked eye, gradually spreads and becomes larger. These spots are colonies containing thousands of bacilli. Let us return to our gelatin plate. We find a spot which answers to the description of a colony of tubercle bacilli. We now take a minute particle from this colony on a wire and convey it to the surface of some hardened blood serum in a test tube. We plug the tube so that no air germs may drop in, and place it in an incubator at the proper temperature. After several days, if no contamination be present, a colony of bacilli will appear around the spot where we sowed the spores. Let us repeat the process; take a particle from this colony, and transfer it to another tube; this is our second culture. This must be repeated until we are satisfied that we have secured a *pure* culture. If this be carried to the twenty-fifth generation, we may be assured that there remains no pus, no ptomaines, nothing but the desired bacilli.

It is a proper material now for inoculation, and if we inoculate some of the lower animals, for instance the monkey, we produce a disease identical with phthisis pulmonalis. Bacteria also afford peculiar chemical reactions. For example, nitric acid will discharge all the color from all bacilli artificially dyed with anilin, except those of tubercle and anthrax. One species is stained readily with a dye that leaves another unaltered. Thus we are enabled in the laboratory to determine whether the bacilli found in sputum, for example, are from tubercle or are the bacteria of decomposition.

From what I have said of the tubercle bacillus, it would seem thoroughly demonstrated that it is the cause of tubercle in these animals. But we must walk cautiously here. These are not human beings, who know that

like results would follow their inoculation. The animals used by Koch are animals very subject to tubercle.

We must, from the very nature of our environment, be constantly inhaling these germs as we pass through the wards of our hospitals; yes, they are floating in the air of our streets and dwellings. It becomes necessary, then, for us to inquire:—If bacteria cause disease, in what manner do they produce it? The healthy organism is always beset with a multitude of non-pathogenic bacteria; they occupy the natural cavities, especially the alimentary canal; they feed on the substances lying in their neighborhood, whether brought into the body or secreted by the tissues; in so doing they set up chemical changes in their substances. While the organs are acting normally these fungi work no mischief. The products of decomposition thus set up are harmless, or are conveyed out of the body before they begin to be active. If bacteria develop to an inordinate degree, if the contents of organs are not frequently discharged, fermentative processes may be set up, which result in disease. Bacteria must always multiply and exist at the expense of the body which they infest, and the more weakened the vital forces become the more favorable is the soil for their development.

Septicæmia is caused by the absorption of the products of putrefaction, induced before bacteria can multiply inside or outside the body. Bacteria must find a congenial soil. The so-called cholera bacillus must gain access to the intestinal tract before it finds conditions suitable to colonization. It does not seem to multiply in the stomach or in the blood, but once injected into the duodenum develops with astonishing rapidity, and the delicate epithelial cells of the villi become swollen, soften and break down, exposing the mucosa.

It has been shown that *bouillon* in which Loëffler's diphtheria bacillus has grown, and which has been passed through unglazed porcelain filters, shows the presence of a poison which is capable of producing the same results upon inoculation as the pure culture of the bacillus itself. Zarniko, working upon the same organism, obtained a number of positive results that led him to declare this bacillus is the cause of epidemic diphtheria, in spite of many assertions to the contrary. Chantmesse and Widal record the result of their work as to what will most easily and effectively destroy the bacillus of diphtheria.

The only three substances that actually checked and destroyed its vitality were phenic acid (5 per cent.), camphor (20 per cent.), olive oil (25 per cent.), in combination. For the last I substitute glycerin, because this allows the mixture to penetrate farther into the mucous membrane than oil, the latter favoring a tendency to pass over the surface. This mixture when heated separates into two layers, the upper one viscid and forming a sort of "glycerol," the lower clear. The latter will completely sterilize a thread dipped in a pure culture of the diphtheria bacillus. Corrosive sublimate was not examined because in strong enough doses it would be dangerous; and in weaker ones it would be useless.

The facts obtained in regard to the streptococcus of erysipelas are reported as follows:—That both chemical and experimental evidence teach the extreme ease of a renewed attack of the disease; that it is possible to kill Guinea pigs by an intoxication when they are immune to an inoculation of the culture in ordinary quantities. And this latter fact should warn experimentors trying to obtain immunity in man by the inoculation of non-pathogenic bacteria, because the same results may be reached.

A new theory in regard to fevers and the relation of micro-organisms is suggested by Roussy, viz: That it is a fermentation produced by a diastase or soluble ferment found in all micro-organisms and cells, and which they use in attacking and transforming matter, either inside their substance or without it.

The resemblance of the malaria parasite to that of recurrent fever is noted in the work of Sacharoff. He states that there exists in the blood of those suffering from recurrent fever a hæmatozoön, which is most prominent after the fever has begun to fall, when it is of enormous proportions, twenty or more diameters of a red blood corpuscle, although smaller ones may still be found. The parasite consists of a delicate amœboid body containing a multitude of dark, round, uniform, sharply outlined, movable granules. Besides these, the protoplasm contains a generally grayish homogeneous nucleus as large as one or two red blood corpuscles. The protoplasm sends out pseudopodia (with granules), which sometimes separate and appear as small delicate pieces of protoplasm. They vary in size, and are often swallowed by the red blood corpuscles in which they grow, and finally develop into the above-mentioned amœboid bodies.

Prof. J. Lewis Smith has made a great many autopsies of children dead from cholera infantum, and almost invariably found the stomach and liver in a comparatively healthy condition. Ganghen, who has given this subject considerable study, denies the existence of any specific germ in the summer diarrhœa of infants, but claims to have found three different germs in the intestines of children suffering from cholera infantum, each producing a chemical poison which is capable of producing vomiting, purging, and even death. A great variety of germs are found in drinking water, and no doubt countless numbers are taken into the

digestive tract, and the principal reason why pathological conditions do not occur more frequently is on account of the germicidal qualities of the gastric juice.

The comma bacillus of Koch, and the typhoid fever germ of Eberth, are especially destroyed in normal gastric juice. When the germs are very numerous, they run the gauntlet of the stomach (as the gastric juice is secreted only during digestion); and once in the alkaline intestinal canal they are capable of setting up disease, other conditions contributing — ill-health, deranged digestion, etc.

Mittnam has made a study of bacteria beneath the nails, and reports, after examining persons following different occupations, having found numerous varieties of micro-organisms, which are interesting from a scientific standpoint relative to the importance of thoroughly cleansing the hands before undertaking any surgical procedure. He found, out of twenty-five experiments, 78 varieties of bacteria, of which 36 were classed as micrococci, 21 diplococci, 18 rods, 3 sarcinæ, and 1 yeast. Cooks, barbers, waiters, etc., were examined.

The blood, defibrinated and freshly drawn, has marked germicidal action; for bacteria its action is decidedly deadly, even hours after it has been drawn from the body. Especially were anti-germic qualities noticed upon pathogenic bacteria. Buchner put the bacilli of anthrax in a quantity of blood, and in two hours the number was reduced from 4,800 to 56, and in three hours only 3 living bacteria remained. Other bacteria were experimented upon in blood with similar results, but the destruction of the organism from putrefaction was much less marked, and on some varieties the blood had little or no action.

It is not the object of these remarks to even give a *resumé* of the *status præsens* of bacteriology, but simply to stimulate thought in that direction. The claims of some of the ultra-bacteriologists may never be realized, but enough has been accomplished to revolutionize the treatment of certain diseases, and the observing student will do well to keep his eye on the microbe, as it seems from the latest investigations that its star is in the ascendant. And who can prognosticate but that in the next decade an entire revolution in the ætiology and treatment of many diseases may take place?

DETROIT, MICH.

MALARIAL MALADIES AND THEIR GEOGRAPHICAL EXTENSION.*

BY PROF. ANGELO CELLI.†

The geographical domain of malaria on the surface of the earth, is so vast that the limits allotted to my paper on this subject would not even suffice for an enumeration of the most important malarial countries, and, moreover, I should only repeat what has already been published by Messrs. Hirsch, Lombard, Bouchard, Boudin, and others. Nor would the time be sufficient if I were to give a synoptical exposition of the distribution of malaria in a geographical domain even more limited.

I may remark, that in the actual condition of science, it is only possible to trace with tolerable approximation, a general line of demarcation between the countries where malaria prevails. In fact, it has been said that the extreme limit toward the North of the boreal hemisphere coincides closely with the isothermal line + 5. Nevertheless, in examining one of the most recent meteorological charts, we readily recognize that the said isotherm is exceeded at many points. We will perhaps approach the truth, if we make the said line of demarcation coincide with the isotherm + 4, on the other side of which will still be found places where cases of malaria are observed, for example, Irkutsk and several other points of Siberia; Haparanda at the base of the Gulf of Bothnia (65°. 5′ Lat. N.); Julianeshaäv at the southern extremity of Greenland; New Archangel in the peninsula of Alaska (57°. 3′ N. Lat.). Thus it will be seen that the domain of malaria in the Northern hemisphere at times extends to very elevated latitudes.

On the other hand in the Southern hemisphere, which is so poor in territory, it does not go beyond the 38th parallel, and its line of demarcation may be made to coincide with isotherm + 15.

As this coincidence is, however, only approximate, I prefer to confine myself to tracing the general lines in order that, with a uniform method we may be able in the not remote future, to establish a chart of malarial territory as exact as possible. This would be extremely easy if such a chart were to be the same as that of the marshy regions—if malaria, this malady so typical of the territory, existed solely in certain districts—if it were confined to certain species of vegetation such as the marshy flora, rice plantations, etc. But on the contrary, to cite only a few examples, the malarial territory of Italy is unfortunately much more extensive than the marshy surface which measures nearly a million of hectares, while there is no malaria in the whole expanse of the Rio de la Plata, the banks and islands of the lower Parana, the pampas of Peru, even in many places where there is much stagnant water or where the annual and estival temperatures exceed those of Rome. Under the same conditions, intermittent fever is relatively very rare in New Caledonia, in many points of the Australian Continent, in the Bermudas, etc.

* Translated expressly for the MEDICAL AGE, by Mr. Jos. Helfman, Detroit.

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Malaria is to be found in territories of very diverse formation. The surface of the Roman Campagna is composed of at least thirty-five various kinds of soil, and there is not one which may be termed *á priori* non-malarial. In Spain they speak of the existence of malaria on granitic soil, and on the Island of Madang in New Guinea it has been found on formations of coral.

It is true that, for the greater part, regions infested with malaria more or less grave in accordance with the latitude, are alluvia of slight elevation. Such are the maritime districts of South and Southeastern Asia, of Africa, and of a large part of America, in the fluvial regions of these countries, and in Europe in the lower basins of the rivers of the Spanish Peninsula, the western shores of France, the valley of the Rhone, the Netherlands, several points in the valley of the Rhine, the mouth of the Elbe, and the coasts of the Baltic Sea, the regions watered by the great rivers which flow into the Caspian, Azov, and the Black Seas, the basin of the Danube, the plains and valleys of Thrace, Thessaly, and Greece, a portion of the coasts of the Adriatic, of the Ionian Sea, and of the Tyrrenian Sea, particularly the Pontine Marshes, the Roman Campagna, the Tuscany marshes, and a large part of the shores and of the valleys of Sicily and Sardinia.

In all these regions there undoubtedly exists and flourishes a specific vegetation—the parasite of malaria. But under what conditions? Does it lead a free life there, or rather, (after the manner of certain myxomicetæ in the cells of the superior plants), an endocellular life, as in the blood? When the examination of a specimen of soil shall permit us to make diagnosis of malaria and its different forms, as we now make in examining a drop of blood, then we shall be able to draw a malarial map with the same exactitude as a geological chart.

Until the present time man is the only thermometer indicating the presence and the degree of malaria. But this thermometer requires several corrections. It manifests for example, the influence of race; hence it is that populations inhabiting for centuries malarial regions, experience their effects much less, and may even be relatively refractory; for example, the black race, certain races of the Coromandel, and, amongst the natives of the Himalayas, the tribes of Avalia, etc.

We must also take into account the fact that malaria is very variable according to the month and the year. In certain periods of the year it ceases, and in others it assumes an epidemic character, as during the spring or the autumn in Northern regions. In the spring it is mild, and lasts but a short time. In summer and in autumn it is dangerous, as in the Roman Campagna, and it is only in summer and in autumn that in many districts of Russia it exhibits any degree of gravity. The rainy season also exercises an influence, as is the case in Sumatra, in New Guinea, and generally in the tropical regions.

To account for this local and temporary distribution of malaria, and its varying geographical distributions, the combined influence of temperature and humidity has been suggested. In this respect it would be well to make at the same time and in the same places, climatological and nosological investigations. In this manner, we would be able to ascertain exactly how and in what reciprocal proportion these meteorological factors exercise their influence —how, for example, in the Northern hemisphere the malaria advances as far as the isothermal line + 4, while in the other hemisphere it reaches only the isothermal line + 15.

Is this combined influence, indeed, the cause of the malarial pandemics ?

In Latium the last general epidemic took place in 1879. After heavy rains, during the spring time, the fever raged in places whence it had long disappeared. In making up a malarial chart it would, accordingly, be necessary to distinguish the zones of endemo-epidemic from those subject to general epidemics or pandemics.

Moreover, it is well known that in the same localities the malaria may be aggravated or palliated by the labor of man. It will suffice to recall, on the one hand, the grand disturbances of territory, for example in the digging of the Isthmus of Panama, and, on the other, all the sanitary measures taken during the last two centuries. These efforts often only interrupt the development of malaria without destroying it—in such a manner that in a sanitary chart, the places formerly infested by malaria are to be in general indicated as zones of latent malaria, or "zones once malarial."

Even without the intervention of man, malaria has during late years become more rare and less dangerous in many parts of Europe and America, as for example in Holland, in many districts of Belgium, in several localities of the United States (New Jersey, Michigan, Florida, etc.). In other places, on the contrary, it has undergone some augmentation, for example in Sweden, in the mountainous districts of Virginia, etc. In order, then, to classify a malarial country, it is necessary that observations be there taken during a number of years. Thus, from time to time—say every ten years—we could make corrections of the malarial chart and could follow its course. The observers will have to be numerous, for here it will never do to generalize on on the basis of data obtained at a single point.

What a short distance sometimes separates, even in the most dangerous countries, the unhealthful localities from places perfectly habitable! The Sultanate of Dahli with its tropical malaria is very near to Singapore, the

beautiful Naples of Southern Asia. Of the chief cities of Europe, Rome, in the midst of a malarial region, is one of the most sanitary.

These differences often vary with the altitude or the temperature. In fact, whilst in Germany the malarial zone is bounded by an elevation of 400 to 500 metres, this boundary rises in Southern Italy as high as 800 metres, and in the Himalaya mountains to about 2,000 metres, and even more, above the level of the sea.

But especially in a vertical direction the malaria diminishes in gravity at altitudes much less considerable. Thus in countries subject to dangerous fevers, as in the Pontine Marshes, in Calabria, and in Sicily, at an elevation of 300 metres, there is a zone of much milder malaria, which serves as a refuge for the inhabitants.

A malarial chart should hence indicate the different degrees of intensity of infection. For this purpose it is necessary to make conscientious medical observations, and as much as possible on disciplined individuals. In this respect the surgeons of the army and navy (particularly the French and English) have furnished, and will be able to furnish still more, precious material. Well-directed colonial enterprises have afforded us some, and in the future will furnish still more. Finally, in civilized countries we may hope for much from the railroad surgeons. In order to demonstrate what may be obtained from the latter, I may cite an existing chart of the malaria prevailing along the Italian railroads. But to establish exact distinctions it is necessary to agree on the different forms of malarial infections.

In the fever countries, the physicians usually perceive malaria everywhere under the most diverse clinical forms. The progress of diagnosis by examination of the blood has already shed much light on the question. Any malady whatever may affect an individual formerly suffering from malaria, and may also be modified as malaria is itself modified by other dyscrasic conditions. But all these forms, modified by previous malarial infections, interest the clinician particularly, whilst medical geography concerns itself more especially with the actual forms of infection, whether they be isolated or associated with other infections.

Amongst these *forms of mixed infection*, or as M. Torti has termed them, proportionate maladies, those which have without doubt been observed amongst us, are tuberculosis, pneumonia and brocho-pneumonia with the lanceolate diplococcus; erysipelas, with consecutive septicæmia from streptococcus; varioloid and ulcerous enterocolitis.

The concurrent character of ulcerous enterocolitis and the malarial affections, causes us to believe in the probable existence of a double infection of malaria and dysentery. The latter may by preference attack malarial patients, just as it attacks with greater readiness persons enfeebled by insufficient alimentation. But that is not all. It has even been said that dysentery is wholly a malarial affection, and several authors have described it as simply a malarial dysentery. This confusion is due to the fact that in certain countries the two maladies appear and augment concurrently in gravity in proportion as we approach the equator.

The same periodical course, sometimes the same fixation, more persistent in the neighborhood of places abounding in stagnant water, and their development following the drying up of this water, are the characteristics which have been considered common to the two maladies.

But without pretending that some of these relations may be simple coincidences, it is to be observed that dysentery possesses a character which imparts to it local bearings different from those of malaria, that is to say, contagiousness. It accordingly propagates itself with dejections, may travel with man, and knows no limits of altitude in any inhabited part. Even in winter, in the midst of centres of population, it may reach its maximum of intensity.

Is there any ætiological analogy between the two maladies? Is dysentery, at least in some regions, produced by an amœboid parasite?

Passing this question, respecting which observations made in Egypt seem in a measure to justify an affirmative answer, we must remember that malaria may appear with intestinal symptoms. In the common instances of malignant fever (Bignani) we observe in the capillaries of the intestinal mucous membrane a large number of parasites, and necrosis of the epithelium under the form of spots. In one case of choleriform pernicious fever, an enormous accumulation of parasites was observed in the vessels, as also superficial neurosis of the mucous membrane. This latter affection may perhaps be the results of a unique and autonomous infection.

But to generalize from these facts, can malaria be associated with cholera, as was stated in the observations made by the English physicians of Indo-China? May it also be associated with yellow fever, as they pretend to have observed in the West Indies? The reply will be given by modern ætiology. The latter has already shown several cases of typhoid fever and of mild concomitant or consecutive malarial infection during convalescence.

Now, is the typho-malarial fever described by the military physicians, in Algeria, in the American war, in the Turko-Russian war, and during the occupation of the Isle of Cyprus, also a mixed infection? Examination of the blood in certain cases of typho-malarial fever, or a fever sub-continuo-typhoidic, does not reveal a double infection. In the few cases

published with autopsy, they have found the organs melanotic and non-melanemic, dealing therefore with anterior malaria and not with concurrent malaria. Besides, all the authors agree on the point that this fever is of a long duration and resists the action of quinine, whilst the most severe forms of malaria yield promptly to the action of this remedy. On the other hand, it is the custom, especially in warm countries, to attribute to the action of malaria every kind of fever. Hence we read in all the books that Massouah is not habitable for Europeans on account of the malaria. Examination of the blood in a large number of cases, typical of the Massouah patients, has excluded its malarial nature. The examination of the blood must, therefore, aid us greatly in correcting the malarial chart.

What we know of the pathogeny of the malarial infection justifies our regarding it as absolutely similar to that of bilious hæmoglobinuric fever, recently described in the tropical regions, for example, at Madagascar, in the Senegal, and at Guadaloupe.

At Rome, I had occasion to observe the case of a traveller who came from the Congo, and found in his blood the same little parasites which we discovered in our summer fevers. Amongst us this form was rare. The hæmorrhagic forms, in which we may have true hæmaturia, are also of slight frequency. But in all cases of severe fever polycholia exists,—produced by the elimination through the liver of the hæmoglobin of the red, plasma-diaphoric globules, which are affected by premature necrosis. There exist besides other red globules, which expire prematurely by losing the hæmoglobin which dissolves in the plasma. If the latter does not exceed 60 per cent. (Ponfich) of the total quantity, it is eliminated like bile by the liver, which gives rise to polycholia; in other cases hæmoglobinuria may also exist, and, consequently, hæmoglobinuric fever. Cases of simple hæmoglobinuria have even been observed in individuals attacked by mild malaria. We cannot always succeed in provoking the access of hæmoglobinuria by cold. We cannot then speak of malarial infection as associated with paroxystic hæmoglobinuria. In all cases the question must be decided by examination of the blood.

With respect to the geographical distribution of the different forms in our warm climates—for example, in the Roman Campagna—we find all the forms prevailing on the surface of the soil. What we observe at the hospital of Santo Spirito from spring to summer and toward autumn, is to be observed also in going from Northern regions toward the equator. Hence in Holland, in Germany, etc., they have generally, in all seasons of the year, rather mild forms, as with us during winter and spring (tertian and quartan fever), while in the tropical regions, the same as in Italy during summer and autumn, severe forms predominate, that is to say, the true diurnal fevers, or with the attacks closely approaching one another, or remittent, or subcontinuous, and the malignant fevers. These dangerous forms in tropical regions are similar to those which have been observed in Italy, in Algeria, in Russia, in America; in the blood of the patients of all countries, as also of those who come from the Congo and from Madagascar, the same specific parasites have always been observed.

Even in tropical regions, malaria is a periodical malady dependent upon the seasons; hence when the endemic passes away, tertian fever is the type which predominates, as with us during springtime, and, just as in all malarial countries, the influence of race is also to be observed. M. Martin has made, near Sumatra, the interesting observation that, simultaneously and in the same places, the Europeans and the Chinese recently arrived are attacked by the severe forms, the Malays and Javanese by tertian, and the Tamils (who perform the most dangerous labors) escape, or suffer at most from quartan fever. On the other hand, under certain circumstances, the zones of mild malaria may change themselves into zones of severe malaria. As the result of an excessively warm summer, fevers similar to our æstivo-autumnal fevers were observed in 1826 on the German coast of the Baltic Sea; in 1854 at Breslau near an overflow of the Oder; in 1865 on a delta of the Elbe; and in 1859 in Lombardy, where malaria exists in rather mild forms, the French troops were attacked during the summer by severe forms of remittent malarial fever.

We may accordingly conclude that, considered from a clinical and epidemiological point of view, malaria is fundamentally the same everywhere on the surface of the earth, according to place and season, but does undergo transitory or more or less durable variations of intensity. These variations may even be epitomized in a single individual. By continuing to study in the same patients, during winter, the relapses of summer or autumnal fevers, we can observe the modification of severe into attenuated fevers.

But is there a clinical and epidemiological unity, corresponding to the parasitic unity?

The different parasitic forms which one recognizes in the first microscopical examination of the blood, correspond to the severe fevers of summer and autumn and to the attenuated fevers of winter and spring. Are these fevers species or fixed varieties, or are they generically different, as is affirmed by Messrs. Grassi and Feletti? Are they not rather varying forms of the same polymorphic parasite?

These are questions possessing an exclusively scientific interest and which may be definitely

solved by artificial cultures of the parasite. However, while waiting for definite proof, let us be permitted to make the following observations:

All the most important parasitic forms have the same commencement (little amœboid bodies), the same life and the same endocellular nutrition at the expense of the red globules. Sporulation proceeds in a manner essentially identical, as also, certain final phases.

In the present state of science, a parasitic form, so to speak, of tertian or quartan fever, with premature sporulation, that is, before invading the whole red globule, is not to be distinguished essentially from a slightly pigmented parasitic form of summer fever.

The most important difference lies in the rapidity of development. In this respect:

1. The cycle of development may be very rapid, and we will have, without pigment, the forms of certain malignant infections:

2. The cycle of development may be rapid, and we shall have the slightly pigmented forms of æstivo-autumnal fevers and certain intermittent fevers (double-tertian, triple-quartan) with attacks in close succession:

3. The cycle of development may be slow, with gradual invasion of the red globule and with formation of spores in a number more or less great, and we will then have tertian or quartan fever.

These varieties of development may depend not only on different conditions, individual or congenital of the organism, but also upon the centres in which they live. Amongst these latter conditions, the best known is the influence of temperature and humidity or that of the seasons and climates. Owing to this influence, in a zone of severe malaria, we find the summer and autumnal forms, and those of summer and spring, and hence we shall find different geographical zones of malaria, more or less severe, as we proceed from the malaria of Northern countries, toward tropical malaria.

In the foregoing classification are wanting the forms to which the first observers had attributed the most importance, viz., the filamentous. According to Laveran, these latter are still the most perfect forms, the true parasites of malaria; while everything would seem to support the belief that they are the forms in destruction.

There are wanting besides, the semi-lunar corpuscles. But to-day we know that they bear no relation to the fever, that they do not cause sensible destruction of the red globules, and do not manifest the action of quinine.

With respect to the morphology of these forms and particularly their manner of reproduction and their relations to other parasitic forms, there is yet much doubt, and even comparative parasitology of the blood has not yet succeeded in shedding all desired light on this subject.

It has been sought to solve the question of the unity or plurality of the parasites by experimental inoculations. The blood of patients suffering from well-determined types of fever, has been inoculated. In several cases it has been possible to reproduce the type and the corresponding parasitic forms, in other cases it has not been possible. The explanation of these differences, is still in the domain of hypothesis. It is by reason of these latter facts, while awaiting further investigations which are to give us definite proof, that I hold it justifiable to admit that the clinical and epidemiological unity corresponds also to the parasitic unity.

RÉSUMÉ.

1. It would be servicable to prepare a chart of malaria, as exact as possible. This chart should be prepared under the co-operation of the epidemiologists of all countries, the surgeons of the army, of the navy, of railroads, of colonial enterprises, etc.

It would be well to adopt a uniform method for all the investigators, distinguishing the endemo-epidemic zones, according to the degree of intensity, as mild, severe, and very severe, and as far as possible the zones of general epidemic character and the zones formerly malarial.

It would be well to gather these observations during several years and at as many points as possible, confirming, wherever this would be necessary, the observations by the examination of the blood, and completing them as far as possible by meteorological observations.

2. Among the forms of malarial infection, those which are the most interesting from an epidemiological point of view, are the forms of first invasion, and those which are associated with other infections. Among the latter we have up to the present time tuberculosis, pneumonia, broncho-pneumonia, erysipelas, septicæmia, varioloid, typhoid fever, ulcerous enterocolitis and, perhaps, also dysentery.—It is probable that the fever termed typho-malarial, is not malarial, while bilious hæmoglobinuric fever is malarial.

3. Whilst awaiting definite morphological proof, we are allowed to admit that the parasitic unity corresponds also to the clinical and epidemiological unity of malaria.

ROME, ITALY.

RHUS TOXICODENDRON.

BY J. W. ANDERSON, M. D.

The curative range of *Rhus toxicodendron* is in rheumatic affections, skin diseases, and strains of the membranes investing the joints. Its action is chiefly expended upon the tendons, fasciæ, sheaths of nerves, etc. It does

not control the rheumatic affections of the synovial membranes, but only those of the ligaments external to the capsules of the joints —does not act upon the nerves themselves, but upon their fibrous sheaths.

The indications for prescribing Rhus can be concisely enumerated as follows: Increase of pain during rest, at night when warm in bed, on first moving the parts, and on waking up in the morning; the pains are relieved by continued gentle movement, flexion of the limbs, and dry heat. These indications are so valid, that even where the rheumatic type of trouble can not be traced, the remedy can be safely prescribed as curative.

The power of Rhus in my hands has often amazed me. I can credit to it many beautiful cures in rheumatism, sciatica, lumbago, hemicrania, scrofulous ophthalmia, bronchial cough of old people, dyspepsia, vesicular erysipelsa, paralysis, inflammatory swellings, puerperal and typhoid fevers, parotitis, enteritis, summer diarrhœa, and dysentery, typhoid pneumonia, shingles, eczema, tinea tonsurans, etc.

It is the remedy *par excellence* in sprains, injuries to ligaments, tendons, etc.—injuries which generally arise from mis-steps, twists, efforts made in an unusual position, over-lifting and over-reaching.

Rhus toxicodendron is a prime remedy whenever typhoid or rheumatic symptoms develop themselves during scarlet, enteric, or other fevers; also when the fever patient is continually moving himself for change of position as a means of relieving the aching of his back and limbs. Also in paraplegia of young persons and children, from cold—sitting on cold stones, standing in the wet, etc.—with great pain in the paralyzed parts.

The following cases, taken at random from my note-book, will possibly not be out of place:

Case 1.—Robt. T., aged eighteen years; rheumatic lameness; drawing pain, with crepitation in right hip-joint. Pain increased by leaving a chair after long sitting on it; by sitting down in the cold; by exerting the leg during walking; in the autumn and by change of weather. Pains were mitigated when near a warm stove, in the sun, and by continued gentle motion. The right leg was so lame that he was obliged to lift it up with his hands to move it on in walking, or rather limping. While walking, the knee-joint was always bent, and every attempt to extend it caused pain, and complete extension was not possible. The hip-joint was stiff, and every motion as painful as it was imperfect; the other functions were normal. Prescribed *Rhus toxicodendron;* prompt recovery.

I consider this a typical case. The affection had run on over two years, and had been treated by several before my attention was called to it. The young man had been cutting timber in the forest, assisted in rolling a huge log on a wagon, and then rode home astride of it through a heavy snow and rain-storm. All possible means had been resorted to in home treatment to alleviate his suffering, but he was left in the condition I found him.

Case 2.—Eddie P., aged ten; lame ankle, caused by a mis-step while descending stairs with a heavy bundle on his back. It was five months after the accident when he came under my care. Ankle-joint was free from pain as long as he kept his foot quiet, but with the least attempt to walk he experienced intolerable pain of a tightening character, which extended from the ankle-joint up to the knee; after continuing to walk some time the pain became bearable. I put him on Rhus; after a gradual recovery of six weeks, discharged cured.

Case 3.—J. T. M., aged seventy-two; long-standing bronchial cough; more on first waking, or on first moving about; expectoration of small plugs of tough mucous. Prescribed Rhus; cured in three weeks.

Case 4.—Mrs. F. M., aged twenty-three; vesicular erysipelas of right arm; swelling, shining redness of the part; burning and intense itching, and great restlessness. Rhus, internally and externally; well in one week.

Case 5.—P. E., aged eighteen; subacute rheumatism of lower extremities; sheaths of tendons and muscles chiefly affected; pains worse during rest, and at night in the warmth of the bed; also pains much increased on first moving, but wear off with continued motion; creeping sensations, as though parts were asleep. Rhus ordered; recovery prompt.

Case 6.—Miss K. G., aged fifteen; scrofulous ophthalmia; burning pains in the eyes, lachrymation, intolerance of light, swelling and inflammation of the lids. Rhus cured.

Case 7.—Mrs. S. K., aged forty; rheumatic hemicrania; fullness of the head, with burning and throbbing pain; oppressive weight in the back part of head, the brain seeming to shake in the skull; swelling of head and face. Rhus brought about rapid recovery.

Case 8.—Mrs. L. E., aged thirty-two; peritonitis; great restlessness; changing position, notwithstanding the pain it causes; tongue red at the tip; oppressive, cutting pain in the abdomen; typhoid symptoms; febris lenta; metritis. Rhus prescribed; recovery.

Case 9.—Charlie W., aged eight; scarlatina; called to see case with attending physician about third day; fever still rising, eruption dark; eyes appear swimming, as if intoxicated; the tongue grows red and smooth, and a drowsy state, with delirium, sets in; great restlessness; bleeding from the nose at night; rheumatism of the joints, worse at rest; œdema of the scrotum and penis; the swollen parotid glands break open, discharge ichor copiously, making deep cavities, as if one could see into the throat; first the left, then the right. Rhus given; in due time recovered health.

Case 10.—Miss Ella N., aged 13; spasmodic snapping of jaw following extraction of left molar; reports similar to a boy's small pop-gun could be heard across room with every motion of jaw. Rhus cured promptly.

Case 11.—A. W., aged 50; spasmodic sneezing; each paroxysm was made up of eight or ten sneezes following in rapid succession, each one growing stronger, until the final sneeze

was almost a complete yell. Rhus removed the difficulty, two doses only being required.

In prescribing for the last two troubles I determined that they were the results of straining, and Rhus was therefore the indicated remedy,

I do not desire to be understood that *Rhus toxicodendron* alone was all the treatment resorted to in the enumerated cases; there are always tonics and hygienic measures requisite to assist recovery. What I do want to impress on the mind of the reader is, that Rhus is the remedy that does the work, and other treatment is merely adjunctive.

I could go on and give numerous cases in which this remedy has done valuable service for me, but time and space will not permit. To get the benefit of Rhus in any case, the drug must be good, understood thoroughly, and handled cautiously and scientifically.

479 Main St., Cincinnati, O.

HYSTERIA A SYMPTOM OF SERIOUS DISEASE, WITH REPORT OF CASES.*

BY E. H. ROOT, M. D.†

Hysteria is perhaps the most unfortunate term in medical literature. It is as non-descriptive of conditions, as these conditions are, too frequently, hard to understand.

The true and often serious nature of disease, is often overlooked when its existence is manifested under the mask of hysterical phenomena. Many a physician of acknowledged skill has suffered humiliation and chagrin at the outcome of these cases. He finds, when too late, that he has made too lightly of them, or that he has given them too serious consideration,—duped he is in either case.

It is not my purpose to write a dissertation upon this interesting topic which already commands a vast amount of able literature. That hysteria is a serious malady, all must admit, and if I can offer additional evidence as to its seriousness, or to the serious diseases that may be in ambush behind it, I will be content.

The cases I report came under my own observation, and taught me a valuable lesson; I report them as I saw them.

CASE 1.—Mrs. A., married, aged 30 years, the mother of two children, girls; she came of a neurotic family, members of which had been insane. Her general health was good during girlhood, and during married life until she became the victim of amenorrhœa, some ten or twelve months prior to her death, when she became markedly hysterical. She was passive in mind and in body. "I can't" seemed to have taken complete possession of her.

She slept fairly well; appetite was variable; constipation stubborn; mental operations, when performed, normal. The patient was forgetful, and complained of confusion of ideas that made no outward sign.

When I first saw the patient, she had been in this condition about four months, growing gradually thinner in flesh. She had taken to her bed, shut out the light and warm summer air from her room, and if approached by a stranger, or suddenly by a member of the family, the pupils would dilate widely and respiration quicken almost to panting.

On examination, I found the circulation poor; the lips and mucous membranes cyanotic, although no heart or lung lesions were discernible. There was pain and a "dragging weight" in the loins, but on examining the pelvis, I found nothing to warrant the pain except passive congestion that seemed general.

The spine presented tender points over the dorsal and cilio-cervical regions. Charcot's "hysterical tripod" was very marked.

The extreme passivity of the patient's condition suggested measures calculated to arouse activity. The windows and blinds of her room were opened; large and hot vaginal douches given to stimulate the pelvic circulation; hot water applied over the spine; massage given; and the constipation relieved, though with difficulty. For the one-half grain of opium, which she was taking every four hours when I first saw her, iron and cod-liver oil were substituted, with systematic feeding. After a few days she was persuaded to leave her bed, and in a few more she consented to take a short ride. She was persuaded to continue in this course, by no small amount of skillful and persevering management on the part of her attendants.

After six or eight weeks she showed marked improvement; had gained in flesh and cheerfulness, and began taking an interest in things about her. In twelve or thirteen weeks the menstrual flow returned, and continued regular until the time of her death. She went about her household duties, seemed happy and restored to health.

Matters went on smoothly until the following summer, in August, when during a menstrual period she swallowed a quantity of corrosive sublimate in solution. Since her apparent restoration to health, no one had noticed anything about her to cause apprehension, not even the hysterical manifestations that had characterized the first of her illness. Her act of self-destruction was a surprise and shock to every one who knew her.

The second day after the poisoning I saw her again; she seemed perfectly rational, but manifested the same hysterical symptoms I had observed a year before at my first visit. When asked why she took the poison she replied: "I don't know. I felt that I *must* do

*Read before the Chicago Pathological Society, September, 1890.

†Professor of Hygiene and Medical Jurisprudence in the Woman's Medical College.

it. I was sorry the minute after. Do you think I will get well?" She said this with pupils widely dilated, respirations quick and fast, and a nervous tremor in the alæ nasi and the muscles of the face.

She died on the eleventh day after taking the poison. Hysterical symptoms, and they only, presented themselves during this last illness; but behind them were the metallic breath, diarrhœa, passive hæmorrhage of the bowels, and retention of albuminous urine, indicating the profound impression the poison had made upon the system. My associate in the case believed my apprehension of grave results unfounded, because the patient was "hysterical."

It is stated that hysterical patients never do themselves bodily harm, yet here is a case diagnosed *hysteria* by two physicians in active practice. While I had recognized the hysterical features of the case, I believed, and still believe, the patient was *insane*.

Case 2.—Miss B., a young woman, aged 20; blonde; single; occupation nothing, or what it suited her whim to do. Intelligence barely average; complexion pale; neurotic; if crossed at any time, hysterics or an outburst of temper was the result. Family history uncertain as to the existence of neuroses. She began showing a mental bias by "acting queer." She rapidly grew worse, refusing food, crying and wandering about her room, chattering constantly.

Hysterical mania was the diagnosis made, and treatment in a hospital for the insane recommended. This continued for ten days, when a change seemed to take place. She was fed with less difficulty, and seemed to make an effort to think. She seemed greatly troubled over her mental inabilities, and would cry because she could not rightly say what she wanted to. On the day set for her removal to an asylum, her mental condition seemed altered so much for the better that it was postponed. On the eleventh or twelfth day her mind seemed in its usual health; pallor extreme; the patient was greatly prostrated, and content to stay in bed. A rise of temperature occurred, and the case proeeeded through a typical course of typhoid fever, and recovered with no remaining unpleasant symptoms.

Case 3.—Miss C., aged 24 years, single; a farmer's daughter; intelligent; faithful in performing duties assigned her. Her sympathetic nature was strong, and when forcibly appealed to made a profound impression upon her physical health. Tender points extended over the entire length of the spine on each side to the sacrum. Charcot's tripod was very marked on pressure, and pain was nearly always present. The patient suffered from pain in the spine—in fact, from pain all over the body—peripheral nerve pain; nausea and vomiting, with pelvic pain accompanying the menstrual flow, that local conditions did not warrant.

Her body seemed, when she came under my observation, completely controlled by a perverted spinal and sympathetic nerve-system over-riding the inhibitory and reasoning control of the brain centres.

Previous to my knowledge of her she had met with a serious disappointment in life, that seemed to be largely responsible for the sad inroads made upon a naturally neurotic nature. She grew thin in flesh; appetite poor; and I began to fear that tuberculosis would, in all probability, close the scene.

In June last (1890) she was attacked with a severe sore throat, which I feared was diphtheritic. The thick exudate cleared off, leaving a red but unbroken base. For a time the idea of diphtheria was lost sight of. On the third day after the soreness of the throat appeared she began to manifest delirium decidedly hysterical in character. My counsel pronounced it a case of "hysterical mania." Nausea and vomiting of a most distressing character set in. Rectal feeding, and the mere suggestion of food, would produce uncontrollable emesis. She finally locked her teeth against all food and attempts to examine the throat.

I could not disabuse my mind of the idea that some grave disease lay behind these profound disturbances of the nerve centers. For ten days and nights we fought what seemed inevitable starvation. The temperature was sometimes below normal, 97° F., and never above 101° F. About the tenth day the patient became more passive, the face showed great depression, and the jaw relaxed sufficiently to allow examination of the throat. Diphtheritic membrane, the presence of which we had suspected, was spread over the tonsils and fauces. During the course of the disease this spread to the nose and to the inner canthus of right eye. The larynx, dorsum of the tongue with its frænum, as well as the lips and buccal surfaces, became involved.

For three weeks we contended with the diphtheria in the presence of the continued and persistent nausea and retching. The patient's mind became again clear, but all force of will power was lost. Rectal feeding and medication was employed, little entering the mouth except local applications that had to be used with caution, and often sparingly. Complete anorexia prevailed. After all diphtheritic exudate had ceased to form, so far as could be determined, the body temperature continued at 100° to 101.5° F. Albumen appeared in scanty urine, which was readily overcome by small doses of citrate of lithia. A hacking cough developed and gradually wasting ensued, nausea and vomiting still persisting though not so severe as formerly. Four weeks she lingered, and then died greatly emaciated. The failure to procure a post-mortem examination left the hypothesis of tuberculosis undetermined.

In these three cases only one leaves any question of the disease present and obscured by hysterical manifestations.

In the first case the question might be raised as to whether the patient was hysterical or really insane. In the second case the symptoms were typically hysterical throughout. In the most rational hours of her illness obnoxious foods would cause vomiting, and when given without her knowledge would not produce vomiting. If she found it out an hour after ingestion she would vomit; and all the foods relied upon for feeding the sick were unfortunately obnoxious to this patient.

580 West Adams St., Chicago, Ill.

A NEW MINOR OPERATING CASE.

BY FRANK WOODBURY, M. D.

Every physician is interested in the means offered him by the instrument maker to perform surgical operations in a skillful manner and with the prospect of the most successful result. He cannot afford to treat wounds as he did twenty years ago, because he would not be doing justice either to his patient or himself. As one of our best instrument makers, Mr. Yarnall, has paid me the compliment of consulting with regard to the construction of a very compact, aseptic minor operating case, I take the opportunity of returning the compliment by briefly bringing it to the notice of the profession. The box is made of hard wood, polished inside and out, and contains a movable metallic tray, holding the knives, probes, etc., which can be immersed in the antiseptic solution, or boiled if desired, in water. The tray has a hook at the upper end, by which it can be lifted out of the box or the solution. The dimensions of the box are 10¼ by 5¼ by 2 inches. It is the most convenient, compact, and complete case that I have yet seen, and contains twenty instruments all steel and nickel-plated, as follows: 2 scalpels (different sizes), 1 straight bistoury, 1 curved probe bistoury, 1 curved sharp bistoury, 1 tenaculum, 1 aneurysm needle, 1 grooved director, 1 spring forceps, 1 amputating knife, and 1 small amputating saw (with movable back). All of the above have metal handles, and are on a metal rack, which can be removed from the case and put into a solution with all the instruments in position. In the bottom of the case are: 1 curved bone forceps, 1 curved scissors, 1 Esmarch tourniquet (with chain), 1 Nelaton's bullet probe, 2 hæmostatic forceps, 1 straight scissors, 1 pair probes, needles, wire and silk. The price is $25.00, but a larger size is to be made, containing trephine and elevators at $30.00. I am also informed that other sized antiseptic operating cases will be made to suit the desires of individual purchasers to order, and instruments plated with aluminum if desired, making them acid proof.

PHILADELPHIA, PA.

Correspondence.

A PHYSICIAN'S ALLIANCE.

TO THE EDITOR OF MEDICAL AGE:

In Baltimore at the present time are ten dispensaries unconnected with medical colleges; five medical colleges, one more to be added soon. Many of the dispensaries are "general," treating enormous numbers of mechanics, tradespeople, as well as many wealthy people. Over $200,000—I believe almost half a million dollars—are annually lost to medical practitioners.

Doctor, send your name for membership. No class of toilers reap less harvest than we. United we can demand and procure our rights by establishing a Medical Practitioners' Protective Alliance, the object of which shall be to maintain organized coöperation among practicing physicians for the purpose of protecting physicians from the abuse of dispensaries, of quick-graduating and inferior medical colleges, and to devise means to enhance our financial condition in every honorable way, and derive the incalculable benefit that can only be obtained by combination.

For particulars address

DR. J. H. DEWOLF.

1607 Mulberry St., Baltimore, Md.

A NEW NASAL SNARE.

EDITOR MEDICAL AGE:

I wish to call attention to a new nasal snare, which combines the advantages of that designed by Dr. Jarvis, of Boston, and Sir Morell Mackenzie's cogwheel *écraseur*. The great superiority the latter presents lies in the fact it can be firmly held so that the hand is below the field of vision, while it can be worked with the same hand, leaving the other free for holding the speculum, or, in certain cases, for controlling the noose with the forefinger in the postnasal space. But the impossibility of working it slowly—is of the geatest disadvantage in the removal of hypertrophied portions of the inferior turbinated body, since a not infrequent difficulty after such operations is the hæmorrhage consequent upon opening the venous sinuses of which such growths are largely composed.

The principle of Jarvis' snare is employed so that any desired length of time may be occupied in the operation. A stout handle is attached to the barrel at the proper nasal angle in such manner that the hand does not obscure the field of vision, while behind the angle of junction, at right angles to the barrel, a little capstan projects which can be easily rotated with the thumb by the four attached levers. The action of this is to withdraw the central screw with the attached loop of wire in a manner similar to that adopted by Jarvis. A secondary advantage which this new instrument possesses over all others consists in the fact that, by reversing the action of the capstan, the wire is again extruded from the instrument, and can be utilized for a second or third operation. This withdrawal of the wire is a great trouble in all other instruments.

GREVILLE MACDONALD, M. D.

LONDON, ENG.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

—Published By—

GEO. S. DAVIS, Medical Publisher, Box 470.

DETROIT, MICH., OCT. 10, 1890.

Editorial.

INOCULATION FOR TUBERCULOSIS.

Of all the diseases of the nosology, tuberculosis has for some time back—especially since the discovery of a specific bacillus in connection therewith by Robert Koch—received a vast amount of attention, both as to therapeusis and prophylaxis. Researches with varied aims and of various characters have been undertaken in many quarters, but apparently with little definite result. Many announcements, often premature or based upon erroneous data, have been made, only, after the stern and impartial scrutiny of science, to be relegated to oblivion. Others deserving of close study and examination, are passed by simply because they are not in accord with popular clamor and ideas. It is the microbe against the field, and the bacillus is in the ascendant, although it is still a moot question whether it is the cause or mere product of phthisis; the evidence thus far is about equally divided.

At the recent (Tenth) International Congress, however, Koch took the opportunity to promulgate some new ideas based upon his study of tuberculosis, and made an announcement that, coming from almost any other source, especially from one of less repute and known integrity, and owing to its indefiniteness and a theatrical smack that recalls the emanations of the *Laboratorié de Rage* of Paris, would have attracted little attention. This was to the effect, the near future might witness the development of a method for the prevention and cure of pulmonary consumption, and that already in connection with such method, he (Koch) had not only succeeded in conferring upon Guinea-pigs—creatures peculiarly susceptible to tuberculosis—perfect immunity as regards the disease, but had also discovered a means of averting the growth and multiplication of tubercular bacilli.

Although Koch, so far as can be discovered, made no such statement, and we are at loss for the grounds upon which its reiteration by the medical press is based, it is universally assumed that his procedure is one of inoculation. What he did claim was, that he had discovered a substance capable of rendering pathogenic bacteria in the living body harmless to the latter, but that he could not, at this stage of his studies, reveal what this substance is. It is possible that this surmise of the press is based upon the fact that Dr. Grancher, well known from his connection with the *Laboratorié de Rage*, and an associate, one Dr. H. Martin, last autumn deposited a sealed envelope with the Academy of Medicine, which deals with the same problem, and which they have just asked be opened and the contents revealed, since they assume Koch's discovery is of the same nature, or based upon the same precise lines as their own; hence they are anxious to secure recognition of priority, and reap such fame and benefits as may obtain thereto.

They assert that by intravenous injections of tubercular material of graduated virulence —*i. e.*, virus dessicated after Pasteur's method of preparing spinal cords in rabies—was obtained a tuberculosis of extreme fatality and that gave rise to definite lesions of the liver, spleen and lungs; and that by cultures of diminished virulence they are able to give to rabbits a prolonged resistance against any form of the malady, the duration of which re mains to be determined.

Now too, an American experimentor, Dr. S. G. Dixon, of Philadelphia, calls attention to the fact that October last he proposed a plan through the columns of the Medical News, of preventive inoculation against tuberculosis, and has already, in animals, secured the desired immunity. His proposition is:

That it is possible to obtain from tubercular material a substance, free from microorganisms, that can be attenuated and inoculated in living animals so as to develop in them the power of resisting the attacks of tubercle bacilli; further, that if these bacilli are to be used for preventive inoculation, their virulence must first be moderated.

Commenting on this the Times and Register assumes that Dr. Dixon's paper first suggested to Koch as well as Grancher the line upon which their researches have been made. This is hardly probable, however, since the paper of the latter was deposited with the Academy of Medicine in November, or in less than a month after Dr. Dixon's announcement, which would afford no opportunity for positive investigation and experimentation; while as for Koch, as already stated, this is mere assumption based upon no tangible evidence.

Taken as a whole then, the matter stands as a mere announcement from all hands, and remains yet to be demonstrated as a tangible fact and discovery. To pass judgement without evidence would be premature, and we do not forget that all men are fallible, and that equally certain assurances have on close inves-

tigation, when divested from all considerations of coincidence, and from equally as high and even higher quarters, fallen to the ground.

In the meantime, we await with some curiosity, the final announcement of Dr. Koch.

INJECTIONS OF BROWN-SEQUARD'S "EXTRACT."

Dr. Postchinine (Gazette Medicale de Botkine), recently made a report to the Medical Society of St. Petersburg, the gist of which is as follows:

After the publication of Brown-Sequard's first communication on this subject, the author was somewhat skeptical, but in his esteem for the celebrated physiologist, resolved to institute experiments at the first opportunity.

The subject of the first trial was an old dog that could scarcely walk. An extract was employed prepared in accordance with all the rules of antisepsis, from the testicles of a rabbit. After the first injection, the animal began to walk, and after the fourth every trace of weakness disappeared.

With so surprising a result, it was resolved to repeat the experiment on man. The patient, 68 years old, had suffered a short time before a severe attack of pleuro-pneumonia, which had left him so enfeebled that he was unable to resume his occupation. After five injections of testicular juice (first sterilized in the most careful manner possible), giving two injections weekly, the patient experienced a return of strength and energy; a sciatic pain, which had long tormented him, disappeared. After eight injections, his reproductive powers returned.

The second case was that of a syphilitic, attacked by profound diabetic coma. The very first injection produced a notable amelioration; after the fourth, the somnolence disappeared and, curious to relate, with the improvement of the general condition, the sugar diminished in the urine. The author, himself a diabetic, obtained the same result in his own case.

Doctor Postchinine tested this treatment in ten other cases, one of which was an old man of 90, who after treatment walked without a cane, which had before been impossible. As a local reaction the puncture was accompanied by a lively pain which at times persisted for forty-eight hours.

The author concludes that the injections of Brown-Sequard "produce in the animal organism indubitable tonic and stimulant effects, though through what physiological process, remains unknown; it may, however, be affirmed that the injected substance stimulates the activities of the cerebral centers, also the heart-function, elevating the blood-pressure and the general nutrition of the body."

DEATH FROM CHLOROFORM.

In spite of the report of the Hyderabad Commission, which it was claimed would henceforth greatly mitigate the dangers of chloroform anæsthesia, "deaths from chloroform" have been as regular an item of news in Great Britain as before.

During the first week in September, a patient at the London Hospital died suddenly from the administration of chloroform. The coroner, Mr. Baxter, recalled the Hyderabad experiments, and inquired whether the latest theory of death under chloroform—viz., that the lungs ceased to act first—applied to this case. The anæsthetist replied in the negative, but "that the autopsy showed the lungs not in the least affected, and that death was due to *syncope*. The heart was healthy, but poorly nourished, while the lungs were adherent to the chest walls."

This goes to prove that to obtain true (impartial) scientific results, research must be made by *impartial* observers, and with surroundings identical with those that obtain in actual practice.

NEW METHOD OF OBTAINING SMALL QUANTITIES OF STOMACH CONTENTS FOR DIAGNOSTIC PURPOSES.

Dr. Einhorn, in Boston Medical and Surgical Journal, describes a new method for obtaining small quantities of stomach contents. The instrument employed is a hollow oval vessel made of silver, one and three-quarters centimetres long, and three-quarters of a centimetre wide, having a narrow opening at the top.

In introducing it the operator carries it to the back of the pharynx near the root of the tongue, and then instructs the patient to swallow. To the vessel is attached a thread in which a knot is tied at a distance of about forty centimetres, so that it can be known when the latter reaches the stomach.

It usually takes about five minutes for it to pass down through the œsophagus. In case much mucous is likely to get into it before it reaches the stomach, from a catarrhal condition of the upper air-passages or the œsophagus, it can be carried by a gelatin capsule which will be dissolved in the stomach. With this instrument, Dr. Einhorn says he is able to ascertain: (1) The permeability of the œsophagus: (2) Whether the cardiac orifice of the stomach is clear or not, and: (3) The contractions of the stomach, as indicated by the drawing-in of the thread.

Book Notices.

CONTENTS OF OCTOBER "COSMOPOLITAN."—"A Successful Man" (frontispiece); "The Executive Departments of the Government" (illustrated), George Grantham Bain; "Chango" (poem), Mary Lowe Dickinson; "A Brabantian Happening" (illustrated), George Wharton Edwards; "A Prophecy" (poem), Helen T. Clark; "A Flying Trip Around the World" (illustrated), Elizabeth Bisland; "Norsemen in the United States" (illustrated), Kristopher Janson; "A Glimpse of Guatemala" (illustrated), Francis J. A. Darr; "Solitude" (poem), Frederick Peterson; "Horses and Riders," Henry Cabot Lodge; "A Successful Man" (story, illustrated), Julien Gordon; "A Sea Charge" (poem), Esther Singleton; "A Piscatorial Dinner" (illustrated), Charles Pelham Clinton; "Francisque Sarcey" (illustrated), Brander Matthews; "Miss Devilet" (story, illustrated), Macdougal Buel; "A Vision of Eld" (poem), James B. Kenyon; "The Twin Cities of the Northwest" (illustrated), Charles King; "Rose and Edelweiss" (poem), H. T. Sudduth; "Review of Current Events," Murat Halstead; "Social Problems," Edward Everett Hale; "John Boyle O'Reilly" (portrait), James Jeffrey Roche.

THE SCIENCE AND ART OF OBSTETRICS By Theophilus Parvin, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children in the Jefferson Medical College of Philadelphia, and one of the Obstetricians to the Philadelphia Hospital. Second edition, revised and enlarged. In one octavo volume of 701 pages, with 239 wood-cuts and a colored plate. Cloth, $4.25; leather, $5.25. Philadelphia: Lea Brothers & Co., 1890.

This, the second edition of Parvin's Obstetrics, has been thoroughly revised, and includes so much of the latest progress in the art it presents as to make it virtually a new book.

It possesses the advantage, also, of having been ably edited, so that the essential facts are fully presented divested of confusing and unnecessary verbiage. This must make it an eligible book for students, and will explain its popularity as a text-book and for reference by the practitioner who desires to inform himself as to the advances in the art.

This work is conveniently divided into five parts, viz.: Anatomy and Physiology of the Female Sexual Organs; Pregnancy; Labor; the Puerperal State. With 239 illustrations, and these subjects covered in one volume, it should certainly have a wide sale at the price at which it is offered.

The busy physician of to-day has no time to wander through two or more volumes of theoretical disquisition on moot points; what he wants is practical, condensed, utilizable knowledge of facts. We are glad to see book publishers meeting this demand, as it must lead to a larger purchase of new works by physicians who desire complete libraries at moderate cost.

A MANUAL OF MODERN SURGERY. An Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time. For the use of students and practitioners. By John B. Roberts, A.M., M.D., Professor of Surgery in the Woman's Medical College of Pennsylvania, Professor of Anatomy and Surgery in the Philadelphia Polyclinic, Lecturer in Anatomy in the University of Pennsylvania. Octavo, 780 pages, 501 illustrations. Cloth, $4.50; leather, $3.50. Philadelphia: Lea Brothers & Co.

This is another illustration of what can be done in these times to condense within proper limits the presentation of the best modern thought and experience covering important branches of medical and surgical practice. The author has undertaken to prepare a practical statement of the best surgical methods and the approved surgical principles of the present day, and to the execution of this immense task he has brought the essentials of a ripe experience and a well-trained judgment. He has freely consulted the literature of the subject in text-books, periodicals, and especially in monographs, recognizing that in the latter form of publication is often to be found the best and newest thought. It has been his object to sift the vast mass of material at hand, and thus to save his readers' time for the consideration only of matter pertinent to their purposes. To this end he has rigidly excluded theories, historical questions, traditional views, and operations and innovations of undetermined value. The work is, therefore, one which may in the best and fullest sense be termed practical.

As indicative of its completeness we quote the subjects covered in the twenty-seven chapters: Inflammation; Distinctive Inflammatory Processes—Erysipelas, Sopræmia, Septicæmia, Pyæmia; Scrofula and Tuberculosis; Syphilis; Rickets or Rachitis; Tumors and Special Tumors; Wounds and Shock; Mode of Repair and Treatment of Wounds; Practical Surgery and Anæsthesia; Operative Surgery; Plastic or Reparative Surgery; Surgery of Special Structures; Diseases and Injuries of Muscles, Tendons, and Bursæ; of the Nerve-Centres and Nerves; of the Heart and Blood-vessels; of Bones; of the Joints, Cartilages, and Ligaments; Surgical Disease of the Respiratory Organs; of the Mouth; of the Abdomen and Pelvis; of the Rectum; Surgical Diseases and Injuries of the Urinary Organs; of the Reproductive Organs; Deformities of Orthopædic Surgery; Amputation; Surgical Diseases of the Breast.

The publishers have been happy in the mechanical work, the printing and binding being in excellent taste.

THE ESSENTIALS OF MEDICAL CHEMISTRY AND URINALYSIS. By Sam. E. Woody, A. M., M. D. Cloth, 12mo.; pp. 157. Price, $1.00. Published by P. Blakiston, Son & Co.

The title is a misnomer. It should be *some* of the essentials, for the book is by no means full.

That it is in some demand is evidenced by the fact it has entered upon its third edition. The plea made for it by its author, a professor in the Kentucky School of Medicine, is, that works of its class are made necessary so long as the "effort is made to crowd the science of medicine into a five months' course." We think, however, on the whole, he would benefit the science of medicine more by advocating a three years graded course of ten months each, in his school, than by tempting his students with a work calculated to be the outline of the future examination in chemistry. Such volumes are absorbed, and learned off by rote, but seldom digested, and instead of elevating medicine, tend to bring it in disrepute by thrusting upon society ignorant and incompetent individuals whose sole claim for support is a questionable degree.

Wood's Medical and Surgical Monographs. Vol. VII. Number 2. August 1890. Paper 8vo. pp. 242. Price $1.00. Published by Wm. Wood & Co., N. Y.

This number embodies the following: "Morbid Blushing, its Pathology and Treatment," by Henry Campbell, M. D.; "Alcoholism in Women," by Dr. Thomeuf; "The Differential Methods of Lifting and Carrying the Sick and Injured," by Geo. H. Darwin, M. D. —an exceptionally good and timely paper; "Treatment of Ingrowing Toe-Nail," by Joseph Amiard, M. D.; "Chronic Bronchitis and its Treatment," by William Murrell, M. D. This latter paper alone is worth more to the practitioner than several times the subscription price of the whole series of Monographs for a year.

Physical Diagnosis and Practical Urinalysis. Edited by John E. Clark, M. D. Cloth, 12mo, 200 pages; price, $1.00. Published by the Illustrated Medical Journal Co., Detroit, Mich.

This work claims to be nothing but a compilation from various sources, and its purpose appears to be that of the so-called "quiz compends"—to enable students to gather sufficient smattering of the subjects treated of to pass the graduation examinations. It is a mediocre work, but not worse than many others that are equally as ill-advised, and hastily prepared.

Wood's Medical and Surgical Monographs. Volume vii, No. 3. September, 1890. Paper, 8vo., pp. 292; price $1.00. Published by Wm. Wood & Co., N. Y.

This number completes the volume and contains a most complete Index along with Title Page and Table of Contents. The remainder of the volume is devoted to a most comprehensive and exhaustive reprint of Dr. A. W. Macfarlane's "Insomnia and its Therapeutics"—a work that justly deserves extensive circulation, as it has no equal in the English language.

Notes and News.

Libraries and Infection.—It might well be supposed that the question whether infectious disease is carried by library books had long ago been answered. It is at all events indisputable that they, like any other articles in a sick room, are capable of retaining the germs of contagion, and all the more so that their available surface is multiplied by the number of their leaves. Letters have repeatedly served as germ-bearing media, and though there is greater difficulty in detecting the influence of volumes which pass from hand to hand in a circle of readers, reason and experience forbid us to doubt that they also have acted in the same way. The degree in which this transference of contagion is ordinarily liable to occur would afford scope for profitable inquiry on the part of librarians and of family practitioners. The practical issue immediately arising out of the question is, of course, that which concerns the work of isolation and disinfection. Arguments directed against the lending system on account of the facilities it affords to infection are not, we consider, of much practical value. With perhaps equal justice one might condemn the common use of street pavements or of public vehicles. Like these, the library is an indispensable public boon, and cannot be set aside through dread of any ordinary and avoidable accident of illness. The only rational safeguards are to be found in a careful registration of infected houses, in the refusal of all fresh loans to such houses, and in the purification of any volumes known to be infected before their restoration to the library. This process had best be carried out in the library building, where a special disinfecting air chamber might readily be provided.

The Hop Pillow as a Soporific.—As regards the reputation of the hop-pillow, which has been handed down from book to book, it is very doubtful if there be much in it; for, although I live in the midst of the chief hop-growing districts, I never knew of its actually being but in practice. I quite believe that it is an old legend that gained more credence than it deserved, owing to the anecdote that King George III, being a sufferer from face-ache, derived comfort and got sleep by the use of a hop-pillow that a loyal subject of Kent presented to him. Be this as it may, so far as medical experience goes there is really nothing to countenance the idea that the hop, except in its volatile constituents, contains anything soporific, and in point of fact I do not believe the hop contributes to the finished beer, so far as the consumer is concerned, anything beyond a delicious aroma and an agreeable, salutary bitter.—*American Druggist.*

The Use of Skin from Puppies in Skin-Grafting.—Dr. M. E. Van Meter records, in the Annals of Surgery for August, 1890, what he believes to be an original use of puppy-grafts for the production of skin, as follows:

A boy, fourteen years old, having in April last sustained severe and extensive burns, under treatment had accomplished the healing of them all, except certain granulating regions beneath the chin and lower jaw, and the right arm from elbow to fingers. Upon these surfaces skin-grafts were finally placed. For the neck, grafts were obtained from the arms of the father and brother of the patient; but for the arm, grafts were taken from two young puppies of the Mexican hairless breed, whose soft, white, hairless skin seemed to offer itself for the purpose of good prospect of successful results. The result was all that could be desired. The puppy-grafts proved to be superior to the human grafts; a greater proportion of them "took," and their subsequent rate of growth was much faster.

The author believes the favorable outcome of the case to be mainly due to the age of the animal selected to furnish the grafts. In the first few days of extra-uterine life the creature grows very rapidly, and by grafting a large area of young tissue with a potentially great developmental power, the ulcerated area is quickly covered in, and the contraction prevented which invariably results after extensive burns when they are allowed to heal without artificial aid.

Bill Nye's Prescription.—The irreverent Bill Nye has been parodying one peculiarity of Stanley's book. In a syndicate letter he narrates his experience as "Chief of the Rear Guard of the Emen Tuteweiler Relief Expedition," the object of which was to relieve Emin Tuteweiler, who was lost somewhere in the jungles of Coney Island or Far Rockaway. He writes:

We had only proceeded a little way to the westward when one of our Wangwana was taken with violent retchings and paroxysms, caused, as I afterwards learned, by over-eating the luscious but unripe dingle-dangle fruit of the Island, which grows in great abundance to the southward, and resembles our American popcorn ball. I administered a box of large navy blue pills made by a dealer on Broadway, whose name and check I did not get in time for use in this report. These pills are about the size of a brass thimble, and, I think, are called the *ne plus ultra*, or seek no further pill. It is by far the most faithful and painstaking pill, I think, that I ever used in my African explorations. No matter how far I would go into the interior, this pill was there, like my good angel, urging me and cheering me to go still further.—*Boston Medical and Surgical Journal.*

Let Us Have Light.—To physicians in city or country practice where satisfactory illumination is desired for use in night work, in the study or at the bedside, we can commend from personal experience the lamps of the Rochester Lamp Co., of New York.

The lamp business may be classed as one of the great industries of the country. Within a few years a great change has taken place in the business. Glass and crockery lamps have given way to bronze, iron and brass. In Connecticut alone the following cities and populations are largely engaged in the manufacture of bronze and brass lamps: Meriden, 22,000; Waterbury, 30,000; Birmingham and Ansonia, 20,000: Bridgport, 50,000; Total, 122,000 people. The business has increased immensely since the "Rochester" bronze lamp was introduced with its perforated cone burner, about five years ago. There are over 2,000,000 Rochester lamps in use, and over 500,000 a year are regularly sold.

"The Rochester" in not one lamp—it is one burner on 2,000 different varieties of lamps; some of them the most artistic and elaborate in design, and neat and exquisite in finish.

A Boston Lullaby.—

Baby's brain is tired of thinking
On the Wherefore and the Whence.
Baby's precious eyes are blinking
With incipient somnolence.

Little hands are weary turning
Heavy leaves of lexicon;
Little nose is fretted learning
How to keep its glasses on.

Baby knows the laws of Nature
Are beneficent and wise;
His medulla oblongata
Bids my darling close his eyes.

And his pneumogastrics tell him
Quietude is always best
When his little cerebellum
Needs recuperative rest.

Baby must have relaxation,
Let the world do wrong or right—
Sleep, my darling, leave Creation
To its chances for the night.

—James Jeffrey Roche, in the *Boston Pilot.*

Seventy Thousand Pounds for an Operating Theatre.—By the will of Mr. J. Syme, which was proved last summer, a sum of seventy thousand pounds was left by the testator for the purpose of building and fitting up a complete operating theatre in connection with the Roosevelt Hospital, situated in New York. Owing, however, to the legality of the bequest being disputed by a sister of the deceased benefactor, on the grounds of insanity and undue influence, the full execution of the instructions contained in the will has been delayed, pending the suit for revocation. This has now been abandoned by the party interested in procuring the nullification of the instrument, and the intention of the late Mr. Syme will consequently be carried into immediate effect, to the great advantage of the fortunate institution selected to be the object of his munificence.

A Prudent Patient.—M. de Montlurin, of Pont de Veyle, loved his bottle; he fell sick and called in a physician. The doctor was cruel; not only did he interdict wine for his client, but he prescribed hot water in large quantities. Madam de Montlurin, desirious of carrying out the prescription of the physician, soon after the departure of the latter, appeared at her husband's bedside with a large glass of limpid and beautiful hot water. The patient rose in bed, and taking a swallow, commenced to gag; after handing the glass back to his wife, he said reproachfully, "My dear, keep the remedy for another time. I have always heard it said that it is dangerous to trifle with medical remedies. Hand me the brandy and soda. If I must die, I do not desire death by drowning." The patient recovered without the hot water or a physician.—*Cin. Lancet and Clinic.*

A Bellamy Notion Adopted.—Just as Henry George is more discussed here than at home, so Bellamy's "Looking Backward" finds its greatest army of serious students in crowded, discontented England. His notion of a public umbrella has been put into operation in a new street just opened at Brixton, where the sidewalk is sheltered by a glass roof ten feet wide, supported by slim, graceful pillars rising from the curb. Everybody hails this innovation with delight, and there is a great clamor to have its use extended throughout London. Certainly nowhere on the habitable globe is such a contrivance more needed than here, where rain is the rule for seven months in the year, and where silk hats are insisted upon by the severest decrees of fashion and commercial usage.—London Letter in *New York Times.*

A Substitute for Tobacco.—Many different vegetable substances used as stimulating beverages in widely distant parts of the world, have been shown to contain caffeine as their active principle. Only one substitute for tobacco has, however, as yet been discovered. This is the leaves of the *Duboisia Hopwoodii*, a shrub growing in Australia, the leaves of which are chewed by the blacks in the same way and for the same purpose as tobacco is chewed. The leaves contain an alkaloid, *piturine*, which is said by certain chemists to be identical with nicotine, but more probably is only closely allied to it. Messrs. Langley and Dickinson have recently shown that the actions of nicotine and piturine are in every respect identical.

A Philanthrophic Family.—Three brothers in Moscow, Peter, Alexander, and Basil Bakhrushin, who not long ago built at their own expense a hospital for the treatment of chronic diseases, have just given the sum of 350,000 roubles (about $175,000) for the establishment of a home for incurables. Of this sum $75,000 will be employed in the construction of the building, while the balance is to be invested and the interest used to pay the running expenses of the home. The number of inmates provided for will be one hundred and fifty, and their ranks are to be recruited from former patients in the hospital for chronic diseases whom the physicians have pronounced incurable.

Toxicity of Ethyl Bromide.—Three cases of poisoning from ethyl bromidum have recently been reported from Berlin, where it seems to be much used as an anæsthetic for dental as well as for small surgical operations, and Dr. Mittenzweigs warns people against its employment. Some years back ethyl bromidum was used in this country extensively, as it has the advantage of acting quickly and rarely producing sickness, but the number of supposed fatalities attending its use led to its loss of popularity. As far as we know it is a drug but little, if at all, employed by American dental surgeons.

Spermine.—According to *Le Mercredi Medical*, Dr. Pohl, of St. Petersburg, believes that certain crystals found in semen are, as stated by Schreider, the phosphate of an organic base, spermine, that is identical, according to Ladenberg and Abel, with ethylenimine. Dr. Pohl has extracted spermine from the testicles of young rabbits, and finds experimentally that it decreases the action of the heart while it increases general energy and stimulates the nervous and genital systems. He believes that the action of castoreum and musk is due to the presence of spermine.

A Universal Panacea.—The acting colonial surgeon of the Victoria Hospital, in Gambia, states that, among the inhabitants of that country, there is but one recognized treatment of disease. This consists in calling in a man who is supposed to be a "doctor," and who, after looking at the patient, sits down at his bedside and writes in Arabic characters on a wooden slate a long rigamarole, generally extracts from the Koran. The slate is then washed, and the dirty infusion drank by the patient.

An Ideal Bactericide.—The National Druggist tells us that Prof. Stilling, of Strasburg, claims to have discovered antiseptics strong enough to kill bacteria in a concentration not injurious to the human body, and at the same time diffusive enough to spread wherever, on a wounded surface, suppurative micro-organisms exist.

"Doctor, you ate *pate de foie gras* the other day after saying to me that my stomach was in the same condition as your own, and, if I desired to be cured, I should abstain from *pate de foie gras.*" The doctor smiled and answered: "It is true I told you that; but, then, I do not desire to be cured."—*Le Figaro.*

Therapeutic Brevities.

The Application of Somnal.—The effects of Somnal in producing natural sleep suggest its use in insomnia. The first case in which I used it was in a patient suffering with acute alcoholism, who had been under treatment for a fortnight in an institution where he had a free supply of liquor, and he came out rather worse than he went in. He was 39 years of age, very tremulous, and could not sleep, or if he dozed off would immediately waken. I gave him, at about 3.00 P. M., 30 minims of Somnal (or, rather, a drachm of a mixture of equal parts of Somnal and whisky), well diluted, and went into an adjoining room to speak to an attendant. Upon my return I was surprised to find him fast asleep, although I had not been away more than fifteen minutes. He slept for four hours, and then was able to take something to eat. At 10 o'clock he had another dose, and he slept until 7 o'clock next morning, having wakened up only once during the night when he insisted upon having another dose, and immediately after taking fell asleep again. The next night he was given a double dose at 10.00 P. M., and slept all night without awakening. No bad effects were observed. The Somnal was given for four nights, when he was so nearly well that it was suspended, as he had had good natural sleep at night, and seemed quite restored. Alcohol was positively prohibited, the only substitute allowed being elixir of coca and camellia (P., D. & Co.), in tablespoonful doses, in which, it is true, there was a small amount of alcohol, which was quite infinitesimal when compared with what he had been using. Somnal, therefore, acts well as a hypnotic in acute alcoholism,—as a tranquilizer and hypnotic.

In a case of neuralgia of stomach the (visceral neurosis of Allbutt), where the patient had a sleepless night, a dose of 20 minims relieved nausea and pain, and the patient fell asleep.

In syphilitic headache and insomnia, Somnal in moderate doses failed to produce sleep, which was afterward secured by sodium bromide and iodide.

In cases of insomnia, fretfulness, and restlessness in young children, Somnal (and mint-water and syrup) offers better results than opiates, and is much safer. The same remark, probably, applies to the use of Somnal in acute pneumonia, but I have not been able to confirm this yet by actual trial.

Without further going into detail, it may be stated in conclusion that Somnal acts as a hypnotic, but instead of depressing the system, as chloral does, it slightly stimulates the gastric mucous membrane, relieves nausea and pain, improves the appetite, increases secretion (probably), does not cause constipation. The circulation, respiration, and temperature are not notably depressed after its administration. No disagreeable after-effects have been observed. As it is rapidly eliminated from the body, it may be administered each night for a number of days without any obvious ill-effects. It acts very much like chloral, but is more pleasant to take, and not so depressing in its effects upon the nervous system and the circulation.—*From a monograph, "Notes Upon Somnal: the New Hypnotic," by Frank Woodbury, A. M., M. D.*

Sea-water Injections in Gonorrhœa.—In the British Medical Journal appears a statement to the effect that Mr. R. F. O'Brien, Dover, treated a number of cases of gonorrhœa successfully by means of sea-water injections.

For five or six years past I have treated both recent and long standing cases of gonorrhœa with common salt water injections successfully. My instructions to patients have been: Use sufficient salt to make the water about as salt as sea-water, and to take four or five (three at least) injections of this water as *hot* as can be borne daily. In the first day or two the secretions are increased, but relief is experienced, and gradually all symptoms—especially in recent cases—disappear inside of ten days.

As salt water of proper dilution is non-irritating to man's membrane and possesses antiseptic qualities, I inferred it would be useful as a hygienic measure in this disease, and prescribed it in conjunction with the indicated remedy. Some patients neglected the internal treatment and made as good a recovery as those who were faithful to it. I therefore attribute the cure to hot salt water.—Malcolm Cameron, M. D.

The Treatment of Gonorrhœal Rheumatism. According to the Wiener Klinische Wochenschrift, August 28th, 1890, Rubenstein has found potassium iodide a rapidly-effective remedy in the treatment of gonorrhœal rheumatism. He gave small doses, usually ordering one drachm of the iodide in five ounces of water, of which he directs the patient to take one or two tablespoonsful in the morning, and four or five tablespoonsful in the afternoon. In some cases he gives a still weaker solution, the patient taking one tablespoonful every hour. After a few hours, in most cases, the pain is markedly lessened, swelling subsides, and a cure is brought about in two or three days.

As to local treatment, the author usually envelops the joint in cloths saturated with a one-per-cent. carbolic acid solution. In some cases he uses a dressing of blue ointment, in others cold moist cloths, and in still others a solution of common salt. When the pain has disappeared he applies an elastic bandage, and if there is effusion he aspirates. Rubenstein has treated in this manner fifteen cases, some of which were acute, others chronic, and all were cured.

Mr. Hutchinson's Treatment of Ringworm.—Mr. Jonathan Hutchinson gives, in the Archives of Surgery, the prescription upon which he has "settled down in tolerable content" for the treatment of ringworm, after having tried a great variety of remedies without equal satisfaction. He relies chiefly on chrysophanic acid. He orders as a wash for the scalp one drachm of Wright's liquor carbonis detergens to the pint of water. Twice a week the scalp should be well washed with this, and all scales and crusts removed. The hair is cut close or shaved. The chrysophanic ointment contains, besides a drachm of chrysophanic acid, twenty grains of ammoniated mercury, a drachm of lanolin, six drachms of benzoated lard, and ten minims of liquor carbonis detergens. This ointment is to be rubbed in more or less freely, according to its effects, night and morning, or later every night only. The cure

will be slow probably, and the secret of success consists in the patient continuance of the same remedy. To those who persevere he promises recovery; it is only the impatient who are disappointed. He has no faith in the rapid cure of ringworm.

The Best Vehicle for Quinine administered to Children.—Dr. Keener says (New England Medical Monthly): Until the Syrup of Yerba Santa was put upon the market, I had great trouble in finding a suitable vehicle for the exhibition of quinine to children. While the liquorice, and the ulmus preparations, and the tannic acid formula, were measurably useful, they were inadequate when large doses were given, or when the quinine was to be used for a considerable time. I depended on its use *per orem*, till the stomach had become intolerant, to a solution of quinine in water and sulphuric acid, and then resorted to its use per enema. My experience with the Syrup of Yerba Santa is such as to warrant me in saying that it deserves the confidence of the profession as a menstruum whereby quinine can not only be rendered tasteless, but absolutely palatable. Five grains of quinine is rendered tasteless in one drachm of the Syrup.

The Treatment of Uterine Fibro-myomata by Apostoli's Method.—Englemann, of Kreuznach (Deutsche Med. Wochenschrift, July 3d, 1890), from careful clinical studies, arrives at the following conclusions: 1. A retrograde metamorphosis in the tumor sufficient to cause a sensible diminution in its size is seldom observed; such changes as occur are probably electrolytic, and are confined to the immediate neighborhood of one pole: 2. The diseased endometrium is principally affected by the electrical treatment, as shown by the disappearance of hæmorrhage and leucorrhœal discharges: 3. Pressure symptoms are always relieved, as well as reflex nervous disturbances: 4. Although this method of treatment does not offer great advantages over these hitherto practiced in cases of uterine fibroid, the latter are still so imperfect that the electrical treatment should be regarded as a valuable adjunct to our previous means of therapy.

Against Saccharin.—The character of current Austrian opinion respecting the injurious effects of Saccharin, is indicated by the resolution adopted at the April 24th session of the Hungarian Health Commission, rejecting the petition of several manufacturers that the sale of the drug be permitted outside of apothecary shops. On the contrary, it was resolved that in Hungary Saccharin shall be sold by apothecaries, and only on the prescriptions of physicians. Liquors, chocolates and confections containing Saccharin are to be regarded as adulterations and excluded from the Hungarian market. With regard to the employment and sale of Saccharin. the Vienna "Apotheker Gremium" has also unanimously declared that it is to be used and sold only in apothecary shops and only on the prescription of physicians, and consequently that it must not form an ingredient in any article of diet.—*Zeit. f. Nahrungsmittal-Untersuchung und Hygiene*, July, 1890.

Preparations of Digitalis.—Continental physicians have recently been discussing the efficacy of preparations of Digitalis, and one of them focussed the general ideas when he said that he preferred the cold infusion on account of its supposed greater diuretic activity. It is prepared by taking from 0.25 to 0.40 gramme of powdered Digitalis leaves and adding 300 grammes of cold water. This should be allowed to macerate for twelve hours, and then filtered. It may be sweetened with syrup. When it is desired to obtain a powerful diuretic action, it is preferable to administer this quantity in two or three doses. There is nothing very new about this, but it is well to print it as a reminder that preparations of Digitalis containing alcohol are often inert.

Infant's Food.—Dr. Geo. B. Fowler, in an article recently published in the Medical Record, gives the preference in most cases to the following easily prepared food:

Put four tablespoonsful of rice into three pints of water and boil half an hour; then set aside on back of range to simmer during the day, water being occasionally added by the cook to maintain the original three pints. At night strain through a colander and place on ice. When cold a paste is formed. Three tablespoonsful of this paste are added to each nursing bottle (half pint) of milk, and fed during the next day, a fresh supply of rice paste being under way in the meantime. Should there be constipation, I use farina, prepared in the same way, and used in the same proportion. Rice is astringent, farina laxative.

Boric Acid in Tuberculosis.—Gaucher recommends boric acid as a remedy for tuberculosis. For five years he has experimented with this drug. The toxic dose is one gramme per kilogramme; or one-thousandth of the animal's weight. Elimination goes on actively by the kidneys; also by the sputum. Experiments on animals show that boric acid given with the food prevents the development of tuberculosis. In consumptives who took a daily dose of 15 grains, there was a notable diminution of the expectoration, which was also more fluid; the lesions remained stationary, and the general health was more satisfactory. The author thought that a drachm per day could be taken by an adult.—*La Medicine Moderne.*

Theine in the Treatment of Neuralgia.—Dr. J. K. Bauday places great reliance on subcutaneous injections of Theine in cases of obstinate neuralgia. In one case of sciatica which had resisted the ordinary medical treatment and Galvanism, he obtained a brilliant cure by injecting one-quarter grain of Theine and rapidly increasing the dose on successive days to one-half grain. Equally effective was Theine when exhibited in a case of supra-orbital neuralgia. Further trial is recommended. It should be noted that Theine is now held by some observers not to be identical with caffeine.

For Irritable Bladder.—Dr. W. P. Chunn, writes to the Maryland Medical Journal that

the following prescription has been found to allay incessant desire to urinate, and irritable bladder when due to phosphatic deposits in the urine:

℞ Acidi benzoici, grammes 7.50.
Sodii boratis, grammes 11.00.
Aquæ, grammes 355.00.

M. Sig. Tablespoonful three times a day.

This mixture has upon two occasions acted so efficiently in what was thought to be cystitis that cystotomy was dispensed with.

Gargle for Tonsillitis.—The following has been a very useful gargle in the treatment of tonsillitis, and is highly recommended:

℞ Tr. guaiac. ammoniat.,
Tr. cinchonæ comp., ää grammes 15.00.
Potassii chlorat., grammes 7.50.
Mel. desp., grammes 15.00.
Pulv. acaciæ, q. s.
Aquæ, q. s. ad. grammes 120.00.

M. Sig. Use as a gargle, and take a teaspoonful every two hours.

Pomade for Alopecia (Monin).—

℞ Gallic acid, grammes 3.00.
Essence of lavender, gramme 1.00.
Vaselin, grammes 40.00.
Castor oil, grammes 20.00.

M. Sig. Apply with friction.—*Journal de Maladies Cutanées.*

A Remedy for Tender Feet.—A remedy for tender feet is cold water—about two quarts,—two tablespoonfuls of ammonia, one tablespoonful of bay rum. Sit with the feet immersed for ten minutes, gently throwing the water over the limbs upward to the knee. Then rub dry with a crash towel, and all the tired feeling is gone. This is good for a sponge bath also.

To Diguise the Taste of Analgesin.—To mask the taste of analgesin, M. Batterny (Lyon Médical) recommends adding an infusion of coffee with milk to the watery solution of the drug. Soda water also, with currant or raspberry syrup, will both disguise the unpleasant taste of the medicine and lessen its disturbing action on the stomach.

Resorcin for Nausea.—Resorcin, in 10 to 20 grain doses, is said to be almost a specific for the nausea which follows a spree. In vomiting of pregnancy it also has proven successful when all else failed. In fact, it may be used to quiet emesis from any source.—*Medical Mirror.*

Coca Wine.—An exceptionally good Coca Wine may be prepared (Pharm. Ztg.) by macerating for several days 200 coca leaves, 100 cognac, 1600 sherry wine, and 400 sweet Hungarian wine (Tokay), dissolving 1 citric acid in the percolate, allowing to stand for a few days and filtering.

Medical Progress.

Rhus Toxicodendron.—The only reliable form of preparation is the tincture made from the fresh leaves, which should be gathered during the period of efflorescence. It is said that, as far as practicable, the leaves should be selected from among plants growing in the shade; in case this is found impracticable, they may be gathered before the sun strikes them in the early morning. The tincture is made according to the directions of the U. S. Pharmacopœia for the manufacture of fresh herb tinctures—fifty parts of the drug to one hundred part of alcohol; after thorough maceration, the liquid is allowed to stand for a period of fourteen days, when it is subjected to percolation, and is then ready for use. The active principle, toxicodendric acid, is an exceedingly volatile substance, and it is reasonable to suppose that preparations made from the dried leaves are practically inert.

The dose ordinarily should not exceed one-half drop three times daily; if the diagnosis is correct, and the results are satisfactory, the dose should be diminished.

Lethal doses are best antagonized by the exhibition of some preparation of lead; lead water and laudanum are the standard remedies in the case of Rhus poisoning. As an external remedy, no combination is superior to ordinary whitewash, applied freely with a brush, and the patient instructed to avoid carrying the poison from one part of the body to another through the medium of the hands. To allay the irritation set up in the digestive tract, olive or some other bland oil may be freely swallowed.

Absorption takes place very rapidly, whether Rhus is applied locally or taken internally, but it is said that cautiously chewing the twigs renders the person proof against poisoning from contact with the shrub. Elimination is effected through the usual channels, the effects being most marked in the skin and upon the urinary tract.

The general action, when taken in medicinal doses, is that of a stimulant, acting upon the cerebral centres. From small medicinal doses, I have never noticed any appreciable narcotic effect, although no doubt large dosage will show that it has decided narcotic properties. Dr. George Kirkpatrick, of La Harpe, Illinois, took by mistake a swallow of the tincture, and almost immediately afterwards, took ten grains of sodium carbonate and a quantity of oil, and felt no bad effects until the second day, when he noticed that the scarf-skin was all peeling off; he suffered no serious inconvenience, however, from the accident. The form, manner, and time of taking, are important factors in producing therapeutic effects. While in the case of chronic rheumatic affections half-drop doses three times daily are quite sufficient, typhoid fever and erysipelas require smaller doses given at more frequent intervals, at least as often as every hour during the day. The mixing of the plain tincture with water is contra-indicated, as a considerable portion of the active principle is thus destroyed; by using it in the form of a solution with diluted alcohol, this objection is removed, and each dose may be combined with a teaspoonful of water with-

out injury, if not allowed to stand exposed too long.

The action of Rhus upon the nervous system is somewhat peculiar and, although it is not a narcotic in the proper sense, it possesses the property of allaying the irritability of the sensory nerves. This is shown in a very distinct manner in chronic rheumatic affections, where the pain will be arrested sometimes in the course of a few hours. My impression is, that the effect in these cases furnishes an illustration of the influence of the cell-action. In sciatica, for example, the nerve-cells are bathed in a fluid containing the rheumatic poison, which is manifested by the sensation of pain; but as soon as the circulating fluid becomes charged with the active principle of Rhus, elimination begins, and at the same time more or less stimulant action takes place in the cells affected, the result being that the pain ceases. The demonstration here offered finds an apparent counterpart when the eye becomes tired from gazing at some particular color, but as soon as an acceptable shade is presented to it, a comfortable sensation of rest is experienced.

The effect of medicinal doses of Rhus upon the circulation, the temperature, and respiration, is not marked. Upon the muscular system, during the progress of rheumatic changes, the effect is very manifest; but this action is undoubtedly through the mechanism of the nerve-cells. Thus, when a nerve-trunk is stimulated (irritated) by some foreign substance, electricity, strychnine, strophanthus, or even by a blow, its power over the muscle is arrested, and, as has been pointed out by Poole, the muscle supplied by the nerve exercises its inherent property and contracts. In the case of lumbago, we are warranted in assuming that the pain may be due to a combination of circumstances brought about originally through the arrest of tissue-change, by which the blood is charged with a poison that suspends the function of the nerve-cells. As a consequence of this arrest of function there is increased muscular tension, manifested by pain on motion. It is in these cases that we have the practical illustration of the stimulant properties of Rhus exhibited, by which the cell-function is promptly restored.

In the early history of the use of Rhus, it was recommended for the relief of paralysis; but it will be apparent from the foregoing that it does not correspond with strychnine in the treatment of this class of cases. The special forms of paralysis which it relieves are caused to disappear solely through the stimulant action upon the nerve-cells, and it is necessary to exercise care in the selection of cases for treatment.

Upon digestion the effect is most remarkable; and, from my experience in the treatment of disorders accompanied by derangements of the digestive functions, I am inclined to regard it as possessing properties allied to that of an antiseptic. It certainly has a detergent effect upon the blood, and persons taking it for the relief of rheumatic affections seem to experience marked improvement in digestion, the secretions being perceptibly increased. When introduced into the stomach, the eliminant action upon the cutaneous system is very noticeable. In the course of a few days, the complexion begins to show favorable changes, and with increased activity of the cutaneous envelope there is a correspondingly increased cerebral activity. I recall a case in which it was used for its influence upon the genito-urinary tract, when indigestion was a prominent symptom, with indications of approaching melancholia. Half-drop doses of the tincture, three times daily, changed the whole character of the disorder, and at the end of a week, indigestion, urethral irritation, and melancholia, had disappeared.

Therapeutical Applications.—A study of the physiological action and toxicological effects of a drug naturally indicate its therapeutical applications; and after what has been said of Rhus, little need be added in pointing out the indications for its employment. I have already referred to an apparent antiseptic and alterative action which it seems to possess, especially in the case of rheumatic and intestinal disorders, and I desire to call especial attention to its value in the treatment of all forms of chronic rheumatic affections. The only instances in which I have failed to obtain good results were those where the patients had become debilitated from insufficient or inappropriate food supply, and in the case of acute attacks engrafted upon a chronic disorder.

Hæmorrhoids, varicose veins, and chronic cystitis, are usually promptly relieved by the exhibition of this drug.

In the treatment of erysipelas, small doses seem to arrest the tendency of the eruption to spread, while the fierce character of the inflammation is subdued and the temperature and pulse fall.

Rheumatic and gouty or lithemic tendencies are liable to manifest themselves during the progress of other diseases, acute and chronic. In typhoid fever, especially where it assumes the lingering form and is accompanied by what appear to be neuralgic pains, the exhibition of Rhus will often cause these pains to disappear, and will produce a marked change in the course of the disease. I may add that this remedy will prove of great service in the treatment of some of the more common sequelæ of this disease, such as paralysis, or sciatica and other pains of a neuralgic character, together with the usual depression of the organs of special sense.

In conclusion, I have but a word to offer relating to the use of Rhus in the treatment of skin diseases. The chronic varieties respond most readily to this drug, and especially the scaly forms; but it is useful in all cases dependent upon an unhealthy condition of the digestive tract. As many of these affections are to a great extent due to the ingestion of improper food—too much starchy and saccharine material being eaten—it will be sufficient to say that these substances must be prohibited during the period of treatment, or but little benefit can be expected.—John Aulde, M.D., in *Medical and Surgical Reporter.*

Croton-Chloral in Neuralgia.—The use of the Butyl-Chloral Hydrate in the treatment of insomnia due to neuralgic pain, is resorted to, in my belief, so rarely in this country that I have thought it worth while to call attention to its interesting action and relative value and safety.

Physiological experiment coupled with practical experience has convinced us all that chloral, while it is the best hypnotic for the majority of cases, is not one which will give sleep in painful affections or relieve neuralgias, unless it is given in full doses—so full as to be dangerous. At the same time it is very desirable that we should have some preparation at hand which will both produce sleep and relieve pain. At present we use chloral and morphine together—the first for its somnifacient effects; the second to relieve the pain, and also to cause sleep. A very great advantage of Butyl-Chloral Hydrate is its safety. The active dose for many cases of neuralgia is only 5 grains given in pill form, yet as much as 40 grains may be used without producing any more noteworthy effects than 20 grains of ordinary chloral so far as the heart and respiration are concerned.

The following case is of interest as showing its advantages:

M, G., aged 35 years, has had for over two years a severe supra-orbital neuralgia, varying in intensity, and accompanied by roaring in the ears and loss of appetite and sleep. The cause of the neuralgia rests in the presence of middle-ear disease, with varying amounts ot discharge. The Eustachian tubes are widely dilated and relaxed. The neuralgia is always worse when the discharge becomes in any way suppressed, and the branches of the entire trifacial nerve become involved in the painful neuralgic shootings. At this time it is impossible for the patient to go to the front door, as the noise of the street hurts her head so much as to make the pain unbearable. The loss of strength and flesh was considerable, owing to the decrease in appetite and loss of sleep. Five grains of Butyl-Chloral Hydrate were ordered every two hours in pill form. Six pills were taken, with entire relief of all the symptoms, and the attaining of good sleep and a better appetite. The effects of each dose lasted twenty-four hours, and then the pain required another six pills. She had no attacks for some weeks after this, although the ear was not discharging.

Functional insomnia resting upon no known cause also yields to this drug very well, but insomnia due to any advanced systemic lesion, as in phthisis, is not relieved in every instance under its use. The history of cases of phthisis who use the drug, is that they sleep well the first night, and lie awake the second night to cough the lungs clear of mucous which has accumulated during sleep and while the nerves are obtunded by the drug. The second sleepless night can be quieted by a large dose, 20 grains, if desired, but I have never wished to run the risk of choking up the lung by preventing expectoration. In the neuralgia of phthisis and anæmia the drug is very serviceable.

Neuralgias of other nerves than the cranial are rarely benefited by Butyl-Chloral; but it is worthy of note that it may sometimes give relief in such cases by using with it 10 to 15 drops of the tincture of gelsemium.

In migraine, sick headache, and bilious headache, Ringer has recommended it, and in true migraine with hemianopsia it is certainly one of the most useful remedies along with caffeine, cannabis Indica and gelsemium.

Curiously enough, while it cures the neuralgia due to a carious tooth, it does not cure toothache.

A great advantage possessed by Croton-Chloral is the applicability of moderate doses in cases of heart disease.—H. A. Hare, M.D., in *Medical News*, Aug. 30th, 1890.

A Clinical Estimate of Arsenite of Copper.—Dr. D. Sinclair, of Tonawanda, N. Y., writes the Medical Summary as follows:

I have used the Arsenite of Copper in almost every case for which I considered it suitably indicated. The cases embrace diarrhœa, vomiting, cholera infantum, dysentery, cholera morbus, typhoid fever, incipient phthisis, anæmia, and general debility with loss of flesh, and, as a whole the results were most pleasing, especially in bowel troubles. I used it in a number of cases of diarrhœa, cholera morbus, and cholera infantum, and it worked splendidly in all but one case, which was that of a bottle-fed infant having very poor surroundings. Though it seemed to stay it for a time, the child at length succumbed to the constant drain on the system. In one case of dysentery the medicine seemed useless, as did many other remedies, such as ipecac, tinct. camphor, bismuth, and pepsin. I believe the lesion was too extensive in the colon before I saw the child for any drug to give instantaneous relief. The child in time recovered after constantly flushing the colon and changing residence for country air.

In simple vomiting due to "weak stomach," I found great relief from the first dose, as well as in those accompanied by chronic diarrhœa, I have constantly used it in typhoid fever, using one tablet to an ounce of water, giving a teaspoonful every three hours, or oftener if bowels are too free, according to urgency of the case. Many cases giving promise of serious bowel trouble in the beginning, commence to improve in that respect immediately, and where I have followed the above directions I have not had trouble with a single case. I have discontinued its use for a day to see the effect, and to my surprise, sometimes in cases where the bowels were unusually quiet, the diarrhœa immediately returned. I generally give bismuth with it. I have never lost a case where these directions were observed, yet I do not believe it a specific in typhoid fever; I consider it a great help in directing the course of the disease into the channel of safety by harboring the strength of the patient against the waste of a continued diarrhœa.

In anæmia and general debility, I noted increase both in appetite and weight, especially in anæmia; the finger nails became pink, having previously looked pale and muddy. The blood of menstruation was also brighter. In incipient phthisis I used it with malt, hypophosphites, etc., so I could not attribute all the favorable results to it, but believe it contributed its share.

On Measles in the Adult.—Dr. Leopold Glück, Zenica, says the opinion generally entertained that rubeola is severe in the adult, is not supported by his experience. He had opportunity to observe 33 cases amongst adults, of whom 6 were convicts, and none of the patients died, nor were there any symptoms indicating a specially dangerous character in the disease. —*Deutsche Med. Zeitung*, July 28th.

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Original Articles.

PRIMARY PERINEORRAPHY.*

BY CHAS. P. NOBLE, M. D.†

GENTLEMEN:—It may appear useless to bring a subject before this Society which has received attention for so many years, and which is considered as thoroughly understood in all its bearings by the profession in general. It appears to me, however, that this is not the case, and this conclusion has been reached, not alone by reading current literature, but upon the evidence presented by many women who require a secondary perineorraphy.

I am satisfied that erroneous views concerning the nature and functions of the pelvic floor, and also of the nature and site of the injuries sustained by it in labor, largely prevail. The view that the structure of principal importance in this region is what is known as the "perineal body," is still held by many. Also that its importance in affording support to the superimposed structure is due to its "wedge-shape," and to a relation to the adjacent structures like that of the "key-stone" to the arch. Upon this theory, tears in this region are harmful because they lessen the thickness of the wedge, and their gravity is estimated by their extent in the direction of the anus; and operations for their repair, primary or secondary, have as their object the restoration of this wedge of tissue between the outlets of the vagina and of the rectum.

The anatomy of the pelvic floor is particularly well given by Berry Hart. The pubic segment is made up of loose tissue, bladder, urethra, anterior vaginal wall, and bladder peritoneum, and loosely attached to the pubic symphysis in front.—Hart might have added that it is also loosely attached to the sacrum by means of the utero-sacral ligaments. The sacral segment is attached to the sacrum and coccyx, and is made up of dense tendinous and muscular tissue, rectum, posterior wall of the vagina, and perineum. The two segments are thus contrasted: The pubic is made up of *loose* tissue, and loosely attached to the pubic symphysis; the sacral of *dense* tissue, and firmly dovetailed into the sacrum and coccyx; the former is drawn up during labor, the latter, driven down.

The sacral segment must be considered as a whole, in my opinion, in order to appreciate the problems of pelvic support, and the relation of injuries of the pelvic floor to displacement of the pelvic viscera. The support of these viscera depends almost exclusively upon this segment. As already noted, and as insisted on by Foster, the utero-sacral ligaments may be considered as connecting the anterior wall of the vagina to the sacrum, by means of mutual attachments to the uterus. Still this slight attachment has little strength to resist downward displacement of the pelvic organs, and the fact remains that they are supported by the sacral segment of the pelvic floor.

In order to appreciate the source of this support, we must recall the anatomy of this segment.

Beginning beneath the skin, we find: The superficial fascia; next, the transversus perinei, and bulbo-cavernosus muscle; the anterior layer of triangular ligament; the compressor urethræ; the posterior layer of triangular ligament; the levator ani and coccygeus muscles; together with connective tissue, blood-vessels, and nerves. The rectum and posterior wall of the vagina also form part of this segment. Upon analysis it is found that the support of the pelvic viscera depends upon the levator ani, coccygeus, transversus perinei muscles, and the pelvic fascias. The transversus perinei is so small a structure that its influence must needs be slight; in other words, upon analysis it is found that the structures in the pelvic floor which give support, are the levator ani and coccygeus muscles. Among its other attachments, the levator ani is attached to the vagina, and on examination can be easily felt on each side thereof, as a resisting band extending about one-half inch up the canal. This fact must be distinctly kept in mind in searching for injuries of the pelvic floor sustained through labor.

Lacerations of the perineum or sacral segment of the pelvic floor, are usually spoken of as *complete* and *incomplete*. This classification serves to separate tears which involve the sphincter ani and rectum from those which do not; but otherwise it conveys a very false impression. The impression conveyed is, that all of these injuries are of the same character, but

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that some, being more extensive, involve the bowel. Lacerations of the perineum, however, vary much in character, and may be:

1. *Median:*—These are vulvar, or extend but a short distance up the vagina—usually not above the posterior layer of the triangular ligament; and when extensive involve the sphincter ani.

2. *Lateral:*—These may, or may not, involve the skin and structures external to the posterior layer of the triangular ligament. They extend along one or both sides of the vagina, and are superficial or deep. The tendency is not to implicate the bowel—the tear extends to the side of the bowel.

3. *Submucous:*—These involve the levator ani principally. Some, or all, of the fibres of the muscle may be torn (on one or both sides) without any superficial evidence of the injury.

As already stated, the complete lacerations of the perineum are median; and hence the only muscles involved are the sphincter ani, transversus perinei, and bulbo-cavernosus. The levator ani is *not* involved. This fact is of interest because of its bearing on the question of pelvic support—as in complete lacerations of the perineum, procidentia uteri is seldom found. Incomplete median lacerations are of little import, but, when extensive, should be sutured as an antiseptic detail, to assure a closed vaginal outlet, and to guard against having an extensive tender cicatrix to interfere with subsequent marital relations.

Lateral tears which extend externally and involve the skin, are usually of an asymmetrical Y-shape; that is, the lateral tear usually extends up each vaginal sulcus—farther on one side than on the other. For the same reason lateral tears which do not involve the posterior commissure of the vulva, are usually of an irregular V-shape. The importance of these tears depends upon their depth—the extent of involvement of the levator ani.

The fact that vaginal tears are lateral, and not median, is certainly interesting, and must have an anatomical explanation. When the tear begins in the vagina, the diagonal position of the head may determine the site of the laceration. When it commences externally, it is properly at first a laceration of the posterior commissure of the vulva. When it reaches the tough triangular ligament, it may be deflected laterally.* These explanations are offered simply as suggestions. The submucous tears are interesting, but can not be diagnosticated with any certainty after labor, nor are they amenable to immediate operation. Should they be recognized, prolonged rest in bed to permit of spontaneous union would be advisable. They are usually not recognized until the patient gets about, when a rectocele quickly develops. Emmet's perineorraphy is the proper treatment for the rectocele.*

The diagnosis of lacerations should be made by inspection. Separation of the vulva is usually sufficient to expose the parts, but if necessary, the posterior wall of the vagina can be everted by inserting the finger into the rectum. A diagnosis of the condition of the perineum should always be made at the conclusion of labor.

Treatment.—Except contraindications exist, those lacerations of the perineum and vagina which are at all extensive, especially complete lacerations and those involving the levator ani, should be sutured. As contraindications, may be mentioned: Post-partum hæmorrhage, eclampsia, and extensive bruising—which is seldom a justifiable condition.

As soon after labor as convenient, the patient should be placed across bed in the lithotomy position, before a good light, and the legs held by the *bein halter* (leg-holder)—or a sheet may be used. Kelly's surgical pad is a great convenience. Anæsthesia is desirable for all except trifling tears, and for these suturing is scarcely necessary. When the laceration is extensive it is well to have a professional assistant; and when the sphincter is involved, a second assistant should be secured. I shall not discuss the suturing of complete tears; the principles laid down by Emmet need only to be followed to assure success.

The necessary instruments are: Curved or straight needles, a needle-holder, scissors, tenaculum, and dissecting forceps. In addition, an irrigator for boiled water, and a syringe with which to give a bichloride douche, will render valuable assistance; absorbent cotton will answer in place of sponges. The choice of suture material is nearly indifferent, provided it is good of its kind, as good results can be obtained with each if they are only properly introduced. I have usually employed aseptic silk, but when catgut is used, I prefer that which has been prepared by heating it for four hours, gradually bringing the temperature to 282° F. (method of Reverdin). It is claimed by Fowler that boiling the catgut in alcohol for two hours, also will render it aseptic, when it should be preserved in alcohol. When aseptic conditions are not likely to be maintained, preference should be given to silver wire and silk-worm gut.

Success in primary perineorraphy depends upon securing and maintaining asepsis, and upon suturing the sundered parts in their *natural* relations. In no other way can perfect results be obtained.

The patient being anæsthetized, and the in-

* I am satisfied that some of these tears begin by a separation of the vagina from the vulva.

* With reference to the frequency of lacerations of the perineum, I agree with the authorities that they occur in about 20 per cent. of primiparous, and in 5 per cent. of multiparous labors.

struments and hands of the operator and assistants having been rendered aseptic, asepsis of the field is secured by thoroughly washing the external genitals and perineum with boiled water, and shaving the vulva. (Care should be exercised to keep the soapy water out of the laceration.) The external parts, and the vagina, are then douched with boiled water, and afterwards with bichloride 1:2000.

A cotton tampon, or a sponge, with a string attached and wrung out of bichloride solution, is now pushed up the vagina, to prevent obscurity of the field by blood coming from the uterus. If, now, upon inspecting the laceration, ragged strips of tissue are found, they should be trimmed off.

Two methods of applying the sutures have been in vogue. The usual method has been to expose the laceration by inserting the index finger of the left hand into the bowel, pressing it forward, then to insert buried sutures, all from the skin surface, beginning near the anus, and finishing at the posterior commissure of the vulva. This method, I am convinced, is very faulty, and will give good results only in trifling median lacerations, many of which would heal spontaneously. Passing the finger into the bowel is unnecessary, and is objectionable upon aseptic, æsthetic, and practical, grounds. The first two objections are self-explanatory, the third is that but one hand is left free for manipulation.

The great objection to this method is, in the really serious injuries of the pelvic floor in which the levator ani is torn on one or both sides, that by it the parts cannot be brought together in their natural relations. Either the suture does not extend up the vagina so far as as the tear, and as a consequence only the tear in the vaginal outlet is closed—the vaginal tear being left open as a pocket to retain secretions, and the levator ani being left detached—or else the suture acts as a puckering string to distort the relation of the parts, and absolutely to prevent satisfactory healing. I take it that it is a manifest impossibility to close a laceration extending one or two inches up one or both of the vaginal sulci by sutures introduced from the skin surface of the perineum; the method is naturally entirely inapplicable to those lacerations which are exclusively vaginal, hence should be entirely abandoned, or restricted to cases in which the injury is superficial, involving at most only those structures external to the posterior layer of the triangular ligament.

The other method is to begin suturing at the upper angle or (if it be bilateral) angles of the tear. A suture should be passed and tied, when, by slight traction upon this, the operator will be given control of the field. Sutures should then be passed, the wound being exposed by tenaculum or forceps, about three to the inch, until the posterior commissure of the vulva is reached—here vagina and vulva meet. The upper sutures can be conveniently tied from time to time, as the lower ones are inserted, two sutures being untied to give a good view of the field in passing the succeeding ones. The use of the irrigator will also be of much service in keeping the field free. Where the laceration is bilateral—Y- or V-shaped,—the same process should be repeated upon the opposite side, before inserting sutures to close the vaginal outlet. When the laceration is vaginal, extending up both sides and not involving the posterior commissure of the vulva, the last suture is made to pass through the outer border of the tear in one sulcus, across the tear on one side, through the tongue of sound vaginal tissue in the middle, across the tear on the other side, and again through the outer border of the laceration—the suture entering and emerging at corresponding points on the two vaginal walls. Tying any remaining sutures completes the operation.

When the laceration extends to the skin surface, involving fasciæ, transversus perinei, bulbo-cavernosus muscles, skin, etc., additional sutures must be passed to close the external wound. The suture which closes the vulvar rent and forms the posterior commissure of the vulva should be made to unite at the same time the vulva and vagina. It is called the "crown" suture. It enters the skin surface of the labium, passes deeply through its substance, emerges on the raw surface of the lateral wall of the vagina at the border of the mucous membrane, passes across the lateral tear, through the tongue of intact vagina in the middle line, again in the raw surface in the lateral wall of the vagina on the opposite side, deeply through the labium, and emerges through the skin surface of the labium at a point corresponding to the point of entrance. When the tear extends up only one vaginal sulcus, this suture is replaced by a simple deep suture. One or more abdominal sutures must now be passed from the skin surface to bring together the torn transversus perinei, bulbo-cavernosus, skin, etc. The external sutures are now tied, the ends cut off, and the operation is complete.*

In tying sutures just enough tension should be made to bring the parts nicely in apposition. In passing sutures the object, to bring the torn surfaces together in their natural relation, must be distinctly borne in mind. This is accomplished by inserting the needle near the margin of the tear, passing it deeply into the tissues in the direction of the arc of a circle, allowing the needle to emerge at the bottom of

* Before the patient is put to bed the tampon should be removed, a bichloride douche given, a twenty-five grain iodoform suppository inserted into the vagina, and the external parts thoroughly dried.

the tear, again inserting it near the point and passing it through the tissues of the opposite side in a similar manner. When a suture passed in this way is tied, it takes the form of a circle, and brings the tissues together, surface to surface. When a suture is inserted superficially, parallel with the surface of a laceration, it acts as a puckering string when tied, and thus defeats the object for which it was used. These principles apply to all suturing.† In this particular operation, it is essential to use every effort to reunite the torn muscles. In no other way can a perfect result be obtained. The perineum is not simply a mass of tissue having a certain form, but is composed of various tissues which have definite functions, and whose functions depend upon the integrity of the tissues.

The after-treatment is simple. The urine should be drawn at intervals of eight hours for two days. The external genitals should be treated antiseptically, as after normal labor. A vaginal douche of bichloride of mercury, 1-4000, may be given every other day, and an additional vaginal suppository of iodoform be introduced. Opium suppositories may be used if much pain is complained of. The legs need not be confined. The bowels should be moved on the third day by administering compound liquorice powder, and using a glycerin enema. They should be moved afterward, on alternate days, at least. The diet should be liquid or soft for the first week. The external sutures may be removed from the seventh to the tenth day; the internal sutures not before two or three weeks have passed. The patient should remain in bed for at least two weeks.

Immediate perineorraphy done after this method will give a large percentage of successes. I regret that I have not a record of my own cases, but it can be said safely that ninety per cent. of such operations yield good results. I hope that I have made myself clear in contending that the perineum should be regarded in the light of the sacral supporting segment of the pelvic floor, and that the principle factor in this support is the levator ani muscle. Also, that incomplete lacerations of the perineum, so called, are of importance directly in the ratio of the involvement of this muscle. Incomplete lacerations not involving this muscle are of importance chiefly from the standpoint of antiseptic and cosmetic surgery, but have little, if any, relation to subsequent downward displacement of the vagina, the bladder, or the uterus.

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† When the laceration is deep and extensive, buried catgut stitches can be used with advantage.

RENAL AND VESICAL ANTISEPSIS.*

BY DR. ALBARRAN.

It is well understood that in general surgery, antisepsis in an operation is capable of preventing the development of the infectious accidents, of which fever is one of the clearest evidences. The reason is simple. We act in a preventive manner, when, by the observance of minute precautions we prevent contamination of the field of operation and the fever which is a symptomatic manifestation of it, and all accidents are avoided.

Medical antisepsis, less privileged, is of necessity curative and not alone preventive; hence, it has not been possible up to the present time to furnish results comparable with those which we are permitted to obtain in surgery; the physician acts in a region already infected; asepsis, so important to the surgeon, plays but a secondary rôle, and the antiseptic medicaments themselves are often powerless to overcome microbes that are more or less distributed throughout the organism, and acting, moreover, by their chemical products.

In urinary surgery we are placed on mixed ground; we deal with organs and not with regions. Only part of the apparatus is accessible, for while we act act directly on the urethra and the bladder, it is impossible to proceed in the same way with the kidneys; and in fact, as a matter of clinical reality, we are often confronted by diseases already communicated, and communicated some time ago. We must then resort to medical and surgical antisepsis, and it is the relative value of the two to which I wish to call attention. To determine what can be yielded us by renal antisepsis in practice, which can be only medical, and in vesical antisepsis which we can easily render surgical, is not without interest. I in no wise pretend to be able to exhaust in one paper this great question of antisepsis in urinary surgery, hence have no other purpose, than to submit some remarks, showing what may be performed, and how we arrive at results of assured utility.

I avail myself, for the demonstration which I desire to make, of recent cases that came under my supervision. They were five in number, attacked by stricture, each exhibiting distinct febrile phenomena. This selection I have made for the purpose of placing in review, not particularly striking facts, but types. The first three patients were subjected to antiseptic treatment; the other two have not followed any one course; but all have undergone internal urethrotomy. First of all, let us examine the history of these patients, when the reflections to which such will give rise, naturally follow.

* Translated expressly for MEDICAL AGE by Mr. Jos. Helfman, Detroit.

The examination of the group of temperature charts, suggests a first remark. In three cases the fever ceased immediately after urethrotomy and did not reappear; in the two others, it persisted several days, but gradually vanished. As for the first three, two of the patients had been subjected to medication; the third whose condition was particularly grave had been operated on at the very outset, while in high fever. One of the other two was also operated on during high fever without preliminary or consecutive medication. The other, on the contrary, took for fifteen days muriate of quinine in doses of 1.50 to 2. grammes daily.

From this general view, it is difficult to determine the part of the medication in progressively attenuating, or causing the immediate disappearance of, the febrile accidents. A study of the details will be still less favorable.

The first case is that of a young man, who applied the 4th of June to receive treatment for stricture. Attempts at dilatation produced an attack of fever, the temperature rising to 103° F. On the 6th, 7th, 8th and 9th, we administered each day 6. grammes of salol. The medicament was passed admirably in the urine, and again dilatation was attempted, with access of fever up to 105° F. The medicament was then discontinued, and dilatation again attempted on the 15th, with new access of fever, which lasted two days,—temperature, less elevated, 102° and 103° F. The 18th of June, the day following the second access, internal urethrotomy was performed. The fever did not reappear, and dilatation by means of a No. 18 bougie, (French,) was performed on the 25th without producing any febrile excitement.

The second case was that of a young man who entered on the 2nd of June. A stationary bougie, inserted on the 3rd, provoked an access of fever as high as 104° F., which vanished only on the 5th. On the 6th a fine bougie was again introduced, but not allowed to remain, the temperature mounting slowly on the 7th and 8th to 100° and 101° F. Beginning on the 9th, salol was administered, and the medicament was taken regularly from the 9th to the 17th inclusive, to the amount of six grammes daily; it was largely eliminated by the urine. On the 11th, dilatation was again attempted, followed by chill, and temperature of 104° F. in the evening. The medication was suspended until the 17th, when a new introduction produced an access of fever with a temperature, for two days, of 104.5° and 104° F., the third day 103° F. Urethrotomy was performed on the 25th after four days complete absence of fever, and seven days after the termination of the salol. The fever did not appear even when dilatation was attempted and performed on the 2nd of July, with a No. 19 (French) bougie.

The third is the case of an old man of 68 years, whom I had five years before urethrotomized and was now suffering from a relapse of stricture with chills; tongue dry and red; in a word, all the symptoms of grave infection. Internal urethrotomy was performed on the 12th of July without preliminary medication. On the 10th and 11th, chills, with temperature of 103° and 104.5°. The fever did not reappear.

The fourth is a young man, also operated upon in high fever, 104° F., without previous medication. The temperature remained elevated for several days. It did not recede after the operation which took place on the 21st of June, until the morning of the 24th, and after slight oscillations ceased only on the 28th. But the stationary sound was then removed and the temperature rose on the 30th to 105° F., and after fluctuating receded definitely only on the 4th of July. Dilatation could then be performed, without any new complication, with a No. 19 bougie.

The fifth, who is also a young man, has the most complicated history of all. I will only say that he was urethrotomized several years ago, and last spring was electrolyzed at New York. The relapse was of such a nature that dilatation proved useless, and it was necessary to urethrotomize him anew on the 2d of June. He was then apyretic, but contrary to his habit. The fever reappeared on the evening of the 3d, and persisted until the 21st, attaining every three or four days 104° to 105° F. From that time his condition rapidly improved; since the 28th we have been able to perform dilatation, and he is now attending to his customary daily duties. I had recourse to quinine muriate, one to two grammes in the 24 hours, then to cinchona powder. My exhibition of this medicament was due to the malarial antecedents of the subject. In this instance I may attribute the disappearance of the fever to the medication, but it must be said that with the preceding one, operated upon in high fever, the fever disappeared at the end of eight days, and only reappeared after the lapse of two days as a result of removing the catheter, whilst with the latter eighteen days were required to achieve definite apyrexia. We see the fever set in the day following the urethrotomy and without medication, and if the salol treatment had been employed in the first two cases, it would be difficult to attribute thereto the merit of having prevented fever after operation; in fact it does not then appear, even if no medicament is administered, and we observed that for eight and nine days salol had not been given when urethrotomy was performed. Moreover, we opposed the attacks of fever arising under the sole influence of dilatation performed while the patients were, so to speak, saturated with salol, and there was no apyrexia following the urethrotomy.

It is natural, then, to attribute to the ureth-

rotomy the disappearance of the fever, and to conclude that it can be performed despite the elevation of temperature.

I do not report these facts for the first time, as I have before published practically the same in the first edition of my "Clinical Lessons." M. Potherat, also, three years ago published in the Progrès Médical a lesson in which I exhibited clinically the antithermic effects of section in stricture; and now, each day, in the course of my hospital visits, I demonstrate its reality.

Internal urethrotomy has for its immediate result the complete and regular evacuation of the bladder, and permits the repeated performance of lavage. In my judgment, this is the secret of its antipyretic action. In fact, it is only when these conditions are realized in the cases which we are studying that the accidents cease. The thermometric curves demonstrate this in a manner so striking that they seem to me to possess all the value of experimental data.

We know now that it is not the urine itself which engenders the fever; this excremential liquid has not this property, but the latter is evolved from the micro-organisms contained. Since the labors of my pupils, MM. Albarran and Halle, I have been convinced of, and do not hesitate to admit, the bacterial origin of urethral fever; but it must be understood that it is to pyogenic bacteria that the chief rôle belongs. This rod has been discovered in infected urine by my pupil, M. Clado, who has carefully described it; and MM. Albarran and Halle have furnished all the proofs requisite to the demonstration of its rôle in the infection termed urethral. These gentlemen have also observed that urethral infection may also arise in the absence of the action of pyogenic bacteria, and M. Albarran has demonstrated in his thesis the existence of combined infections. Thus, amongst thirteen febrile patients who were bacteriologically examined, in six, the pyogenic bacteria were in a state of purity; in five, they were associated with micrococci, with a liquefying bacillus, or with streptococci; in two, with streptococci in a state of purity. With the five patients of whom I am writing, bacteriological analysis showed the presence of pyogenic bacteria in the urine.

It is not to be doubted that these bacteria still exist in the urine of these patients, probably in numbers, despite the cessation of the fever, but they are devoid of influence. The mere presence of infecting organisms is not sufficient for grave accidents; it is necessary that conditions of receptivity exist; and these auxiliary conditions which render effective the presence of pathogenic organisms are often realized with sufferers from stricture. The repletion or insufficient evacuation of the bladder on the one hand, the traumatisms to which the urethra is subjected during the performance of dilatation on the other, furnish the occasional necessary causes. Nothing has been more clearly demonstrated in clinical practice than the influence of wounds, and of the necessary concurrence of the bladder, on the production of febrile accidents. Lesion of the canal is in itself insufficient.

I have discovered, on occasions by no means rare, that prostatics suffering from complete retention, with whom false routes have been made, have no fever. On the other hand, sufferers from stricture are very frequently attacked by it, under the influence of lesions much less grave.

This is in truth the essential condition, and I have, I may say, at all times insisted on the real differences between the contact and the penetration of urine. The contact of the most contaminated urine is inoffensive. The proof is forthcoming at any moment, and while we are speaking of urethrotomy, do we not frequently observe at the moment of the section, that the urine always invades the canal, gliding along the conductor? I do not dwell upon these facts, from which I long ago made the proper deductions, but am simply raising a point necessary to my discussion—the question of dose.

It is a fact well established and accepted by microbiolgists, that the dose has an influence in the production of infectious phenomena; this influence, we shall actually recognize as of the first order. Hence, so long as our patients are subjected only to vesical absorption, they will most usually be found apyretic; this will be observed with all the patients in the course of treatment. In most cases it is only when the urethra is explored that the temperature is elevated.

Certain patients, however, suffer from grave and prolonged febrile accidents, unless we intervene. The fullness of the bladder, and the state of continued tension which results from imperfect evacuation, and which the pathological sensibility of the viscus constantly renews, involves the ureter and the kidneys. Under the double influence of insufficient elimination and of absorption *in situ*, the pyretic state appears and persists.

Without entering upon an exposition of the pathological physiology which permits me to show what can be the influence exercised by the bladder on the ureters and kidneys, and how it promotes microbial receptivity, it will be sufficient to review the observations, translating their language, in order to observe how decisive is the re-establishment of the function of the bladder. It is within this viscus, moreover, that the organisms capable of producing by their simple and combined action febrile phenomena, reside and

multiply. In giving issue to pathological urine, we permit the expulsion of pathogenic agents; we render insufficient the dose necessary for the production of infectious phenomena, and preserve the upper urinary apparatus. By simply protecting the urethra with a stationary catheter, the absorption ceases, or proceeds in an insufficient manner.

We are not, therefore, to be surprised at the good effects of internal urethrotomy on febrile patients, and at the inocuousness of an intervention which, if methodical, opens no doors to infection. Urethrotomy acts with our patients just as do incisions for discharge, for drainage, and as lavage acts, in instances where we attack any focus whatever; it does not suppress the lesions, it does not destroy the pathogenic agents, but it suppresses the conditions which permits them to injure; it is, in a word, preventive; and if I borrow this expressive word from M. Bouchard, I do not wish to establish any parallel between the mode of infection which I am discussing, and those of which he has recently published the history.

In truth, we achieve the results, as may be observed, with little cost. To be sure, our operative intervention has been antiseptically conducted, but we guard specially against the renewal of the infectious absorptions.

Our antisepsis is solely surgical, and is directed toward the bladder alone. It is true that we wash the urethra with care, but we cannot prevent the passage of the urine during the operation. The sound obstructs it afterwards, but all know that very often the urine passes between the instrument and the canal. This is one of the reasons for my discontinuing the use of large instruments, formerly commended, in order that if the urine escapes by the side of the sound, it shall not produce tension; there will be contact, but not penetration. The operation performed, we wash the bladder with boric acid or even with weak nitrate of silver; whatever may be the weakness of this latter agent, so precious as a microbicide, its employment cannot be frequently repeated, and we must accordingly have recourse, generally, to boric acid. Lavage is performed every two hours, so as to render infection as slight as possible; abundant drink is prescribed in accordance with the precept of Gosselin, to accelerate the protecting flow in the ureter. The weak microbicide action of even concentrated solutions of boric acid, permit us to believe that we act by cleaning the bladder and by removing the purulent centers which rest in contact with the walls; at all events the results are most satisfactory.

I have observed, and my readers know, that we are not rich in antiseptic medicamental agents, capable of acting effectively in the vesical centre, and of being there tolerated. It is not necessary to enumerate those which we have employed in liquid and gaseous form, hence I will merely repeat what I have said many times—that nitrate of silver, and boric acid, are the agents which best respond to the requirements of the practice of surgery of the urinary passages.

I would unnecessarily prolong this paper if I attempted to review all the medicaments which we have tried for the purpose of producing renal antisepsis, administering them by the stomach and hypodermatically, and hoping that their elimination by the urine would modify them. Note the result with salol. I need only state that all our attempts hitherto in medical therapy have proved fruitless.

Some antiseptics—amongst others the biborate of soda—sometimes clarify the urine, but the more or less actual limpidity of the urinary liquid is no guarantee of its aseptic character; moreover, even this is brought about only in exceptional instances. Without assuming the right to judge the question, we should take into account both former trials and three years of uninterrupted investigations which are still fruitless, but which we have decided to continue.

I have already had occasion to show that with aseptic urine, surgical antisepsis is sufficient to prevent infection. The cases just cited permit me to prove that when infection has already taken place, it is also possible to act with security, provided we thoroughly understand that the bladder particularly requires attention. It is this conviction, now very old, which has prompted me to extend the limits of the operative indications with fever patients—which caused me to advise long ago that renal lesions do not constitute contraindications, and even to find in them, in certain cases, urgent indications for action. And it is also for the reason that we can do nothing for the kidneys and the quality of the urine by antiseptic medication, that I have called attention to several instances in which vesical antisepsis had happily made good the inefficacy of renal antisepsis.

PARIS, France.

EMPHYSEMA AND CHRONIC BRONCHITIS.*

BY JOHN H. MUSSER, M. D.†

GENTLEMEN:—These two patients are not striking in appearance, but both express the same illness which has traced itself upon their bodies; in one it is of years' duration; in the other it has lasted only since last January. Neither is old, one being 44, the other 31; and yet both look like ageing men. The fact that they appear so much older than their actual age warrants, is a marked char-

*Clinical Lecture.

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acteristic of their disease. This man, aged 31, was born in Ireland; he had no illness throughout his childhood, but has been exposed in his work to all the vicissitudes of our American climate. He has been also a hard drinker; for three years previous to 1885, he worked in a chemical factory where he was exposed to all sorts of irritating fumes. In 1885 the present illness began; it started with a cough, following a sense of oppression. Since this time he has been subject to recurring attacks in the cold season, the so-called "winter cough." The attacks of dyspnœa grew worse and the cough more violent and prolonged, until he was compelled to present himself at this hospital for relief. These two symptoms are the only clinical signs which he shows; we must find his actual condition from physical examination. The cough is not constant in character, as for several hours in the day he will be free from it; it then appears, paroxysmal in effort, and does not stop until there has been coughed up a large amount of muco-purulent matter. The dyspnœa which has been marked in the spell of coughing is now relieved,and he is free from both symptoms until, as he expresses it, "his chest fills up again." The dyspnœa which at first was present only during the paroxysm of coughing,is now apparent on slight exertion.

There is but one condition to which this history points; that is a constantly recurring inflammation in the bronchial tubes, bilateral in character. Acute bronchitis lasts, as a rule, for four or five days; with it are generally associated nasal, pharyngeal, and laryngeal, inflammation. The subacute form of bronchitis lasts for weeks; while the chronic form exists for a varying time, dependent upon the circumstances of the case and its surroundings, the persistence of the exciting cause, and the lack of proper care.

In bronchitis, pure and simple, the discharge is muco-purulent in character. The secondary changes produce dyspnœa; at first, slight paroxysms, the so-called asthma; there is a progressive dilation of the air-sacs of the lung due to the accumulation of an excess of secretion within their border. The elasticity of the structure is impaired; expansion is not marked —the lung axis becomes shorter; the antero-posterior diameter of the chest is increased; curvature of the spine ensues; there is rounding of the shoulders; the scapulæ are flattened; the sternum becomes more prominent; the costal angles become more and more obtuse; the ribs do not slant but approach the horizontal. In concise terms it is the permanent fixing upon the chest of the phenomena of full inspiration. Study your own chest before the mirror and you will see that this condition is approximated on a full inspiration. There is difficulty in getting the air out of the lung—expiratory dyspnœa, differing from inspiratory dyspnœa in the most marked manner. In this latter form there is a sinking-in of the intermediate air spaces, the diaphragm acts violently, and the ribs are drawn up vigorously.

Vocal fremitus is decreased; on percussion the note is vesicilo-tympanitic. The lungs encroach the adjacent organs; the heart's impulse is feeble; on percussion, the cardiac dullness is lessened. On auscultation of the lung, there is fonnd decreased force of the respiratory murmur, the air going in and coming out with less force, and the expiration is prolonged. Râles are heard, due to the air bubbling through the mucous and pus in the larger bronchial tubes. The expiratory forces have become weakened, and there is more residual air left in the lung at each inspiration. Atrophy of the component parts of the lung substance next takes place; the air-cells break down and melt into larger cells, until around the edge of a bronchial tree where there had been a thousand air-sacs, there is, perhaps, but one large cell.

As to the expectoration in the ordinary form, it is mucous or muco-purulent; in other cases the discharge is of a fœtid character; on standing it settles into three layers; an upper zone dark in color, a middle one greenish, and the lower yellowish or purulent.—This form of expectoration occurs when there is dilatation of the bronchi, and the material collects for a long time before it is cast off. Again, we have croupous bronchitis, in which are coughed up fibrinous casts of the larger tubes, when the smothering sensation is more marked, and the relief after coughing more sudden.

This condition of the barrel-shaped chest, in which the head seems to sink down between the shoulders, is termed emphysema; it leads to changes in other organs. Blood vessels are obliterated in the lung; the heart has difficulty in forcing its supply into the remaining vessels; oxygenation of the blood is imperfect; dyspnœa correspondingly increases. The right heart increases in size and hypertrophies, but the time comes when this compensating hypertrophy fails and dilatation begins.

In studying the treatment of these cases, we speedily find that the English have been the great investigators in this field. Living in a climate which predisposes to affections of this sort, we find their therapeutics taken up largely with studies of remedies and measures calculated to give relief, or perfect a cure. The present attitude of the profession towards the treatment of chronic bronchitis is a type of their relations to all chronic diseases, an attitude which the whole profession is slowly, but surely, adopting. This is not so much to study the drugs which relieve or cure this condition—not to pay so much attention to local measures or formulæ purporting to be of service—but to reduce these factors to a minimum. In their place, to regard the relationship be-

tween the trouble and occupation, diet, habitation, climate, and the other active causes which are producing or maintaining the disease, or preventing improvement. Remove the cause which is producing the trouble, and add conditions which favor its relief, and you have won more than half the battle. It is of no use to pour into such patients as these, expectorants, tonics, or stimulants, or make local applications, if we permit the causes of the disease still to exist. The occupations of the sufferers must be studied; if they are working in fumes, in close, ill-ventilated rooms, are breathing sewer gas, or sleeping in cold, wretched apartments, or in close quarters, these influences must be removed. If the climate is thought to produce or maintain their trouble, they must migrate. Egypt for the English, and Southern California for Americans, I believe to be the most favored spots we have at our command. You may smile at the idea of suggesting Florida, Colorado, or California to such poor patients, but you will frequently find that they contrive to go, in some way; a sympathising lodge, or employer, or friends, may furnish means for such a trip.

Habits must not be overlooked. The use of alcohol in weakening the resistance of the body and in causing liver or stomach disease is a powerful factor. English authorities believe that chronic bronchitis can be due to liver trouble depending on a gouty diathesis. These cases are nearly always ill-nourished. In them exists generally the "vicious circle"—dilatation of the heart, congestion of the liver; and a low grade inflammation of the digestive tract. The removal of the cause, attention to the nutrition, and regulation of the diet are the essentials of modern therapeutics; strong, easily digested food to strengthen the protoplasm is needed; the nutrition of the muscles can be increased by the use of massage. Training the extrinsic muscles of respiration directly aids in the cure, for weakness in the respiratory muscles is early seen; to this end respiratory gymnastics should be practiced. Prevent recurrent attacks by hardening the system, by changing the occupation, residence or climate. To accomplish this at home, order baths and exercise, especially in the open air. You can begin by giving douches of water over the head and chest, making the temperature about 70° at first, after a time lowering it to 50°. By putting in alcohol to stimulate the surface of the body, the possibility of taking a fresh cold can be avoided. Follow these douches with brisk rubbings with coarse towels, when a pleasant reaction follows. More general baths can be tried; a cold bath, night and morning, is a good invigerator. The Turkish bath in its entirety, or simplified, is often excellent, especially with children, for the latter are quickly influenced by the course of chronic bronchitis; they are often subjects thereof, and their pliable chests show rapidly any emphysematous change.

At this point comes up the question of Sanitariums; they have sprung up throughout the country within the last few years in great numbers; their courses of treatment have been very successful, simply because they carry out in detail and with regularity the treatment outlined above; in addition, they induce regular habits, good food, and the use of a remedy which I believe is of small service, that is electricity. Many of these institutions have been started by charlatans, many by the laity with the sole idea of money making, and yet in all that have been active in treatment, the results have been very successful.

It seems hardly worth the while to refer to drugs, so important do I regard the other forms of treatment, yet, given in a careful, skillful way, they can be of great service. To keep up the strength and force of the patient and as a re-respiratory stimulant, strychnia in ascending doses is of great use. Early in the disease when the discharges are scanty and viscid, the alkalies are of service, making the secretions more profuse; of these I regard the iodide of potassium as the most efficient; neutral mixture in large doses is also good. After free secretion is established, stimulating expectorants may be tried, but very cautiously; the vegetable expectorants are the best. But beware! As soon as the slightest evidences of depression from their use is seen, the appetite upset or irritation produced, stop them at once.

Tar, an old favorite, is again attracting favorable notice. In your college days you studied bishop Berkeley's Dissertations on Philosophy; the English laity as well as the English medical profession, pay great attention to chronic bronchitis, and so this worthy Bishop wrote a dissertation on tar water, and its beneficient action in proper cases. Although not at all an agreeable preparation, I believe in its efficacy. The wine of tar, or tar in pill form or in capsules, is first-class. Tereben, a horrible chemical combination resulting from action of sulphuric acid on turpentine, is excellent, and usually well borne, and claimed by its advocates to have an antiseptic action on the alimentary canal and hence correct fermentations in its course. The balsams, copaiba, cubebs, and the oil of eucalyptus, are good if they do not upset the stomach. Ammonia in its preparations can be tried. Inhalations are often soothing in their effect; I prefer the wine of ipecacuanha, twenty drops on an ounce of warm water, as its persistent use is usually attended with good results; adding an anodyne is frequently good policy, if much irritation exists—conium, hyoscyamus, etc. The depth to which these vapors penetrate depends on the respiratory force; it is impossible to spray

them beyond the larynx; hence I prefer inhalations to atomization.

When chronic bronchitis is secondary to organic heart disease, no treatment that does not help the heart will do good, hence when chronic cough exists, always examine the heart.

PHILADELPHIA, PA.

ELEPHANTIASIS ARABUM.*

BY F. D. HULBURT, M.D.

Elephantiasis Arabum, also "pachydermia," "Barbadoes leg," etc., is described as "a localized hypertrophic disease of skin and subcutaneous tissue, appearing after chronic or frequently-repeated acute inflammation of the blood and lymph vessels, characterized by œdema, redness and swelling." There is a gradual, sometimes an enormous, increase in size of the part affected, and in some instances warty excrescences and ulcerations.

The above definition applies only after the consideration of many causes. In any given case there may be an absence of any or many of the enumerated characteristics. For instance, the œdema in this disease is peculiar inasmuch as there is less pitting on pressure, and to make an impression the pressure must of itself be greater than in the œdema produced by other diseases and other causes. In some advanced cases it is said to be difficult to produce any pitting at all. The starting point of the disease is inflammation of the vessels, and this inflammation can be made acute, resembling erysipelas, or sufficiently chronic to be hardly perceptible. Hence we should not say that erysipelas invariably precedes the disease; nor, on the other hand, fail in the diagnosis because there has been no visible acute inflammation. As a rule, however, when the disease attacks the lower extremity, it is preceded by acute inflammation. The lower extremity is most frequently the seat thereof, the foot and tissues below the knee being the parts first affected; finally the whole limb as far as the hip-joint may become involved. Although usually confined to one extremity, it sometimes attacks both. Next in point of frequency it attacks the scrotum and penis of men, and the labia majora and minora of women, and they may be affected in part or as a whole. The scrotum is sometimes diseased, the penis remaining normal, or *vice versa*. The upper extremities are less frequently attacked, but the disease has been known to affect the ears, cheeks, arms, and female breast. When affecting the penis, the prepuce becomes thickened and elongated, and the skin of the whole organ gradually enlarges without necessarily involving the glans.

* Read before the Central Wisconsin Medical Society, September 20th, 1890.

The causes which produce elephantiasis are numerous. As a general rule it may be said that anything which hinders the flow and favors the escape of the lymph in the lymphatics, whether it be produced by inflammation of the blood-vessels or of the lymphatics themselves, or from external pressure, tends to an increase of the cutaneous and subcutaneous tissue. There is present what might be called a lymph œdema, which is followed by cell-proliferation and consequent hypertrophy of surrounding tissues. Among the general causes which are said to produce the disease are erysipelas, ulcus cruris, long-standing eczema, varicose veins, thrombosis, obliteration of distal vessels, lupus, and syphilis—the latter two being the most frequent when it involves the upper extremities. Further, the disease is most often met with in climates near the tropics, but is occasionally found anywhere. In tropical regions the disease is endemic, and its prevalence due to other causes than those already enumerated, it being provoked by a long, thin, thread-like worm which has been named, from its discovery in human blood, *filaria sanguinis hominis*. The worm gains entrance into the circulation through the stagnant drinking-water so often used by the natives, and which contains the embryos. Concerning this interesting little creature the following may be stated:

The parent worms live in the lymphatics; this is proved by their young and ova being found there, even when absent from the blood. They do not live in the glands, but in the lymphatic trunk on the distal sides of the glands. They are oviparous. After the hatching of the eggs, the free embryos pass along the lymph vessels and enter the general circulation. Resting in some organ while the native is awake, it circulates in the blood during his sleep, whence the mosquito abstracts it, and acts as its intermediary host. (Johnston.)

Thus far we have only mentioned the abode and habit of the worm, and will now consider the manner in which it produces the disease under consideration. The normal habit of the filaria or worm, being in the lymphatic trunks on the distal side of the glands, her progeny must travel along the afferent vessels, through the glands, and so on to the thoracic duct and thence into the general circulation. The mature embryo, being sinuous and powerful, is well constructed to perform this journey. But often, instead of the mature embryo, an ovum is launched into the lymph channel prematurely, and before the contained embryo has sufficiently extended its chorion. In this condition it is too large to pass the gland to which it is carried by the advancing lymph current, and this passive ovum, rolled up in its chorionic envelope, unable to aid itself, becomes an embolus. Filariæ are wonderfully prolific. Myriads of young are expelled in a short time,

and in the process of parturition large numbers of these immature ova are expelled, and being too large to pass the gland where the afferent lymphatic breaks up into fine capillary network, they act as emboli which obstruct the lymph channels one after another until the fluid that carries them can no longer pass. In this manner, by the presence and the inflammation they excite, the gland or glands directly connected with the lymphatic in which the aborting female is lodged, are thoroughly obstructed. Anastomoses for a time may aid the passage of the lymph, but the anastomosing vessels will carry the embolic ova as well. The corresponding glands will in their turn be invaded, and so on until the entire lymphatic system connected directly or indirectly with the vessel in which the parent worm is lodged, becomes obstructed, the site and character of the resulting disease depending upon the location of the worm and the degree of embolism.

In speaking of the mosquito as being an intermediary host, it is meant that it is the mosquito which carries the embryo of the filaria or worm indirectly from man to man. This is accomplished in the following manner: The mature embryo of the filaria circulates in the blood of the infected native: the mosquito fills himself with this infected blood; he then flies to some damp, stagnant pool of water, which is his natural haunt, and upon the surface of which he drops to die. The embryos of the filaria contained within the blood which he had previously sucked, are set free, and are ready to enter the circulation of the next thirsty mortal who happens to take them in with his draught of water. Once in the blood, they develop, and if in sufficient quantity, produce stagnation in lymph vessels, which eventually becomes elephantiasis Arabum. (Johnston.)

Report of Case.—From the father I have learned the following history: The patient is now 15 years of age; his trouble began in October, 1882, he being then 7 years of age and enjoying good health. On a certain day he was taken with chilly sensations followed by systemic fever. An erysipelas or erysipelatous inflammation appeared on the anterior and inner surface of the thigh; there was redness, swelling, and much pain in the parts. This inflammation rapidly extended upward, involving the left half of the abdomen and so on to the left chest. In a short time it began to disappear from chest and thigh, and became localized in the left inguinal region, in which location an abscess formed. About four weeks after the onset of the disease, the abscess was aspirated, and about a pint of pus removed. An incision was next made into the abscess, and plugged with lint. The lint was soon removed, and pus continued to escape for three or four days, when the opening closed, and has remained closed ever since. The abscess was deep-seated. The day before the abscess was aspirated, the patient complained of much distress in the region of the bladder and rectum. There was marked dysuria and painful defæcation. The rectum and bladder were very painful and tender. As stated before, the opening made in the abscess in the inguinal region remained open only about four or five days. About two days after it closed, pus and blood began to escape from the urethra, and continued for about six months, when the amount of blood passed became much less, and finally ceased altogether; but the escape of pus continued up to within the last year and a half, during which time it has only appeared at intervals.

In 1883, about one year after the first symptoms appeared, infiltration and hypertrophy on the dorsal surface of the penis began. The prepuce became thickened and much elongated. Circumcision was performed in 1886. The infiltration and hypertrophy has gradually increased up to the present time. The organ is very much increased in size, and is still increasing. A stricture of the urethra exists which prevents the passage of a catheter. This stricture has existed since the first symptoms of the disease began. Possibly this stricture existed prior to the development of the local erysipelatous inflammation and subsequent abscess, and may have been the starting point of the present conditions, but we can gain no knowledge from patient or parents that gives affirmative evidence to that effect.

Reedsburg, Wisconsin.

COCOANUT AS A TÆNICIDE.

BY W. R. ALLISON, M. D.

Mr. G. H., aged about 35; always enjoyed good health; noticed some time ago last fall that segments of a tape-worm appeared in the discharges from the bowels.

He was ordered to fast for twenty-four hours and take, before breakfast, pumpkin-seed tea, to be followed by a laxative. The result was about eighteen feet of worm passed, and he seemed well for about eight weeks when segments again appeared in the stools, and were also discharged while at study or asleep. He was accordingly prescribed male fern, which was followed by the expulsion of fifteen feet of tænia solium, giving again seeming health for four or six weeks, except he was unable to sleep well; complained at the time of the reappearance of the worm-segments, and of an inability to concentration of thought. He never seemed to have any other symptoms of the parasite.

He now used chloroform, and another time turpentine, but with no good results, when he by chance ate a cocoanut, and was surprised to find that he had discharged a complete tape-worm. Since then I have used cocoanut frequently as a tænicide, and find it pleasant that it brings the worm without the usual administration of a cathartic.

Good Hope, Illinois.

Correspondence.

PARASITES IN URINE.

Editor MEDICAL AGE:

Refering to your criticism of Dr. Geo. W. Lamar's case, I beg to present some evidence as to the possibility of the existence of parasites in the urinary organs. While I am of the opinion that at least two cases have been reported in this country, I cannot at present refer to but one, this reported by my father, Dr. David S. Booth, in a paper read before the Southern Illinois Medical Association in 1882, and published in the Western Medical Reporter of March the same year. The parasite described by him was supposed to be that named by Cobbold "*Bilharzia hæmatobia.*" Besides the references given in the paper, I find an article in Quain's "Dictionary of Medicine," by Dr. T. S. Cobbold. The "National Medical Dictionary" (Billings'), also gives a description of the *Bilharzia* as "a species of trematode worm found in the portal vein and urinary organs of man and cattle, producing hæmaturia; occurs in Egypt and South Africa; embryos found in drinking water."

I enclose copy of the paper of my father, which was quite extensively copied, being the first case reported in this country.

DAVID S. BOOTH, Jr. M. D.

BELLEVILLE, ILL., Oct. 7th, 1890.

[The article of Dr. David Booth, Sr., deals with a supposed case of "worms in urine." The patient, according to his description, was of extreme neurotic temperament, the daughter of an extremely neurotic father, the latter "so much so, indeed, that trifles have at times nearly unbalanced his mind."

The parasites were obtained from the chamber, and mounted for the microscope, "and by consultation with 'Beal on Kidney Diseases and Urinary Deposits,' 'Roberts on Urinary and Kidney Diseases,' and numerous other authors, and comparing their plates and texts with the different mountings and fields," all confirmed the truthfulness of Dr. Booth's views.

This evidence, however, is far from conclusive. The previous history of the patient to begin with is suspicious. Next, the difficulty Dr. Booth encountered, according to his own description, in identifying (?) the supposed parasite, evidences lack of knowledge of these minute forms of life, and it is well known that neither the plates in "Robert's" or "Beale" are sufficiently accurate for precise determination. Further, one familiar with the life histories of organisms of this class, know how closely they resemble each other, and the great difficulty that is experienced even by experts,—those who have made of this branch of Zoology a life study,—to differentiate them.

Had Dr. Booth been familiar with the life history of *Bilharzia hæmatobia*, he would have known how impossible it was to discover it in urine, and likewise how impossible it must be for a young woman in Illinois to be infected with a parasite that exist only in upper Egypt, Abyssinia, Nubia, and the Zambesi valley. Moreover its habitat is primarily and purely, the *circulation.* It may be found in the *blood vessels* of the kidney and liver—has even been discovered in the left ventricle of the heart. Its *ova* may escape through the kidney to the bladder and be expelled with urine, but these are merely microscopic in point of size, and could develop no Trematode within the urinary viscus, the conditions being all inimical.

Further, Spencer Cobbold never claimed this "fluke" as a *urinary* parasite, but specifically defines its place in Zoology and among parasites, mentioning it may derange the renal and urinary function by finding lodgement in the vessels of the kidney. Finally, while he admits having been deceived on several occasions regarding so-called urinary parasites, latterly, in his work on Pseudo-Parasitism, he utterly scouts the existence of such, and points out the impossibility thereof from a physiological point of view. Since Cobbold maintains this position, and is an authority over authorities in these matters, we are certainly justified in asserting the impossibility of a urinary or vesical parasite; as before remarked such are almost invariably the larvæ of some one of the Diptera, gathered with the express intent to deceive.

Any one who undertakes to study these forms of life, or to identify larvæ, which are of kindred nature, will find himself continually deceived by resemblances, even while invoking the aid of the microscope, and speedily discover, as has the writer, that in no instance can he be sure of the identity of a form without first tracing its whole life history viz., from its immediate parent to the reproduction and development of its own offspring.—ED.]

IDIOSYNCRASY TOWARD QUININE.

Editor MEDICAL AGE:

I was somewhat surprised to read at the conclusion of my article "Marked Idiosyncrasy toward Quinine," in the AGE for September 25th, the following editorial assumption: "We feel justified in assuming that the results attributed to the alkaloid were coincident as far as it was concerned, and due to the malady alone."

Possibly I did not make plain enough the fact that the phenomena reported as following the ingestion of quinine in a certain patient

had been produced before my trial with the drug; these trials were made at varying times when the patient had not been suffering from malarial poisoning. The account of his condition at these periods were identical with the description which I reported. This fact, which was alluded to, alone dispels all conjecture as to the action of the drug upon the patient's organism. In addition the phenomena had followed the ingestion of quinine in a previous attack of malaria occurring a short time before, of which possibly the condition in which I saw him was a lingering relic. The attack was mild, and no similar symptoms had appeared during it except after the taking of quinine, which was tried several times; then there appeared, invariably, within an hour's time, and disappeared within twelve hours, the symptoms noted in the article. They did not replace the chill except when the drug was given just before the time when the chill was expected. In the chill, and subsequently to it, and before quinine was taken, there was nothing noted which resembled them at all. The possibility that the condition was due to prejudice or "suggestion," was considered at the time, and eliminated. A number of times, once under my notice, the patient did not know that he was taking quinine, and only suspected it when the symptoms appeared.

The idiosyncratic effects of quinine are well known, and have been reported in cases where no malarial poison existed. Of course in severe cases of malaria, symptoms as pronounced or worse can be seen; this is not the point; in this case it is assumed, I think, with some justice, they were produced by the quinine. I do not doubt the severity of malarial cases in Ohio or Michigan, or the possible vagaries of editorial idiosyncrasy, still in the experience of Philadelphia physicians, malarial cases with universal rash and intense œdema are unknown.

Yours Sincerely,

J. HOWE ADAMS, M. D.

252 S. 17th St. Philadelphia.

Far from malarial cases with universal rash and intense œdema being rare, as Dr. Adams intimates, they are quite common, comparatively, as a quarter of a century in the "wild and woolly West" would convince him. We did not understand that Dr. Adams administered quinine to his patient while in a state of complete health, as he intimates in the foregoing. In such a case he was of course justified in his assumption. We have investigated several cases of so-called idiosyncrasy to quinine, and while some were undoubtedly genuine, the symptoms in the majority were plainly the manifestations of disease. We are also inclined to think much of the blame in the former instances was due to adulteration of the quinine with a cheaper alkaloid.—ED.]

SPERMINE AND THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Editor MEDICAL AGE:

The astute collaborators of the Journal of the American Medical Association have just discovered, through a St. Petersburg (sic) journal, that such a salt exists as phosphate of spermine!

It would not be "English, or furrin, y' know" to obtain any information from the medical periodicals of this country, though the Journal professes to be a representative American medical publication.

Nevertheless, I would suggest the supervising editor of the Journal wipe his spectacles, and consult the files of the MEDICAL AGE and Therapeutic Gazette of last year—to say nothing of the hosts of journals that reproduced these articles—when he may discover that spermine was long since isolated and definitely described, thanks to the enterprise of a leading American house, and its muriate salt somewhat extensively experimented with hypodermically, and further, with some degree of success.

The editor says, editorially (Journal of the American Medical Association for October 11th, 1890):

"Possibly, also, some of Brown-Sequard's results may find their explanation in the hypodermic injection of this leucomaine, spermine, or some similar substance, which can in the *future* (sic) be isolated and definitely described."

This is progress! Where is Dr. N. S. Davis, who was wont to keep the Journal abreast with the times? To make the matter more ridiculous, the Journal, a year ago, entirely scouted any possible value in the "Brown-Sequard matter," but now, since it has obtained some recognition in Russia ("Distance lends enchantment," doubtless), it is willing to admit there may be something in it after all.

INQUIRER.

CHICAGO, ILL., Oct. 20th, 1890.

[Certainly it does seem a trifle strange that the first news regarding the isolation of spermine should reach the Journal of the American Medical Association from foreign sources, particularly as the first spermine ever isolated for therapeutic investigation came from the laboratory of Parke, Davis & Co.; and further, that experimented with by Kobert and others, who were first to set the "ball rolling" abroad regarding this salt, was derived from the same source.

The credit of first seggregating spermine for therapeutic purposes certainly belongs to this representative American house, and was undertaken solely in the interests of science, at no inconsiderable expense, and not with any view to pecuniary returns, for this firm have never marketed a grain thereof. Yet, in face of these well known facts, a New York house claims to manufacture spermine at one dollar per grain, and to have been the original investigators of its scope in therapeutics.—ED.]

An Hour's Industry will do more to produce cheerfulness, suppress vile humors, and retrive your affairs, than a month's moaning.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

—Published By—

GEO. S. DAVIS, Medical Publisher, Box 470.

DETROIT, MICH., OCT. 25, 1890.

Editorial.

"TERMS CASH."

The question of fees plays no inconsiderable part in the social relations of physicians in every community, and is often a source of discord, jealousy, and heart-burnings. How to remedy this is a problem.

Whether or not there is a remedy, other than a higher educational and moral standard to be demanded of those who enter the profession, is a matter of grave doubt. So long as men enter upon the duties of a practitioner from "trade" motives—whose sole aim in practice is to get the most money possible out of it—so long there will be underbidding, cutting, and all the unpleasantnesses that naturally follow.

Doubtless it is true, as often reiterated, "that the public should be educated to different views and standards regarding medical men than those that now generally obtain"—that they should be taught the physician's education, his instruments, library, and other appliances, are so much invested capital (for which he legitimately expects to be recouped with accrued interest) as much as the merchant goods upon the shelves represent absolute cash outlay.

This is all very pretty in theory, and just as to fact; nevertheless another fact remains, that, for the ideas generally obtaining, the profession itself is responsible, it alone having "educated the public" to their present understanding; and even herein, notoriously, doctors disagree. Again, it is impossible in any event for the community at large to grasp the embodied evidence in its full bearings, for the average human, in spite of all the possibilities in theory which language admits of, is really incapable of grasping and digesting that which is not tangible. Sugar and cloth are tangibles, therefore, while the development of skill, through brain power and the investment embodied therein, are intangibles—the strange grocer's, haberdasher's, or sadler's wares are matters of definite observation, but the wares of the strange physician are estimated through hearsay, and measured in individual "half-bushels," or by the possessor's evidence of wealth. It is then sheer nonsense to prate of "educating the community" to this and that—since any such social aggregation must be made up of varied types, classes, races, temperaments, and morals—until the much-talked-of millineum shall have made its advent and conformed all to a single standard; and then, if the promises are true, the physician will care as little about his fees as his patrons will about liquidating them.

There is, however, a remedy that, though incomplete, will in no small measure avert existing evils, viz.: "Terms Cash!" There is no reason, temporal or spiritual, why a custom that obtains in no other profession or business, should obtain to the practice of medicine, viz., giving universal credit. Some one has aptly said the Americans are a nation of debtors, and this is certainly extraordinarily true of those who become the clients of medical men; at the same time, the opportunities afforded for the collection of debts are exceptionally and notoriously bad. Even with the executors of the deceased patient, the rule is: The bill of the undertaker first; that of the physician last.

Elsewhere, in England, France, Spain, Germany, Scandinavia, and even in Tartar Russia and heathen China, custom with all the force of law ordains that all outstanding indebtedness shall be settled at some definite period during the year; any failure to conform to this custom is deemed financial as well as moral bankruptcy, and inculcates alike, social, trade, and professional ostracism. Nowhere on the face of the globe save in the United States is it customary for a stranger to apply to a medical man, and having obtained advice, and ignoring all explanation, leave the consulting room without a tender of payment or, perhaps what is little better, with the monosyllabic "*bookit;*" yet this is an everyday occurrence in almost every physician's office in the Union. Consultations everywhere else mean "*Cash;*" then why should they not likewise mean "Cash" in this particular portion of the universe! No one thinks of treating the butcher, the baker, the candlestick-maker, in this summary fashion.

There is no sense in medical men pauperizing their patients—for this is just what such custom amounts to; and further, it is absolutely placing a premium on dishonesty.

Right here should be added that the custom of seeking and accepting hospital and dispensary appointments, without an adequate salary, is not only radically wrong, but pernicious, and moreover dishonest; not only toward other medical men, but toward the misled philanthropic founders, and toward the afflicted. And there are too many of both institutions and afflicted.

It is deemed quackery most vile to advertise through the columns of the lay press, and there is no salvation even through religious and medical periodicals; but the foundation of

hospitals and multiplication of dispensaries, with gratuitous attendance upon them in a professional capacity, is only another expression of charlatanism, since it is well understood that the value of the services represents so much advertising outlay, and "trade" advertising at that! There are hospitals that absolutely put a premium upon patients, and pay the latter to become occupants of their wards, as a part of the trade advertisement of its medical men. Of course it is claimed that the latter contribute their services as an equivalent for experience, and this sounds well to the uninitiated; but as a matter of fact, in the majority of instances these services are of a most perfunctory routine character, and given only as a means of bringing the individual prominently before the public. It is an old and trite maxim that "What is worth having is worthy of being paid for," and this applies to hospital and dispensary attendance as well as to private practice. Further, the masses are beginning to recognize that a hospital or dispensary (or even college) appointment, is no measure of capability, educational or otherwise.

No wonder physicians are poor and leave their families paupers, so long as they do not exact their just dues, and continue to encourage the principle of "giving something for nothing." There is no profession or calling that contributes so much to charity into one-hundredth of one-per-cent. as the medical, and we regret to say that a deal of this charity, even aside from, hospitals, etc., is foolish and wasted, and its effect in "educating the people" may easily be discovered on every hand. To encourage idleness and dishonesty is not charity, and a most sinful application of its mantle. As Tom Carlyle remarked in one of his fits of peristaltic perturbation:

> Let wastefulness, idleness, and improvidence take the fate which God has appointed them, that their opposites may have a chance for *their* fate. He that will not work according to his faculty, let him perish according to his necessity.

For all this is the emanation of gastric griefs in a confirmed dyspeptic, there is a solid truth contained. Time was when the poor were oppressed, but now the pendulum has swung the other way, (judging from the account books of medical men), and they have become the *oppressors*. The man who can afford a dollar or two for a circus, twice as much for a Saturday evening's "spree" or Sunday outing, and as much again for a prize-fight, is a poor object of charity, yet such are the most clamorous therefor, and constitute a majority of the patrons of dispensaries. It has ever been a well recognized fact, that the *truly deserving* are not apt to make a parade of their necessities.

When the writer recalls a most estimable and scholarly physician and gentleman who enjoyed a large and supposedly lucrative practice in a neighboring city—who was industrious and economical—and yet when compelled "to pay the debt to Nature," left his family in abject poverty, he is inclined to loudly voice the old proverb that "Charity begins at home!" Of the thousands on this gentleman's books, scarcely enough could be collected to meet the extremely modest funeral expenses. He had been too moderate in his charges, too earnest in his life-work to collect, too tender-hearted to refuse an appeal no matter what its source: he was not appreciated for his real worth, for he lowered the dignity of his profession by small fees and failure to enforce even these; and now his name is almost forgotten in the community in which he lived and so faithfully and unselfishly served, while the memory of another physician, less a gentleman, less self-denying, less conscientious, and perhaps with less real ability, but somewhat famous for his dogmatism and high charges, and who demanded Charon's services a decade before, is still green.

Next to the matter of fees, that of collection is the greatest problem. The trouble is of like nature, the remedy the same. If medical men place a low value upon their services, it must be expected that these services will be held in like estimation by the public. "Terms Cash, or thirty, sixty, and ninety days," with the alternative of entire severance of business and professional relations, is the only solution. The veterinary practitioner exacts his two dollars a visit, and his terms, invariably, are "cash or security," and he thrives where the general practitioner fails. His patrons give him little trouble, though his patients are not always the most agreeable, and the fee is forthcoming with the service. Surely it is a strange social condition when the "horse doctor" thrives, and the man doctor starves!—but then the former is not handicapped by charities as fulsome and misleading as they are undeserving.

We recall a man of wealth, and who still lives in luxury, no expense being too great where his own gratification is concerned; who squanders money "like water" in his political projects; who always demands a trifle more than the current value when he condescends to render a service; and who likewise requires the closest and most personal attention on the part of his family physician. He is no way chary in calling upon the latter at all periods convenient or inconvenient, and needlessly detaining him for hours. Yet this man never liquidates his bill save at intervals marked by years, and when it requires three figures for enumeration of the total, and then, without any consideration of interest, invariably demands a discount of ten per cent. or more. He tendered a consulting physician, from a neighboring city, $30

on one occasion, and on another, $100 to a veterinarian, from a like distance, called to see a *prize bull*. The charges made by his medical attendant are always reasonable, and exactly the same as those to his next door neighbor who commands less than one-tenth the capital and luxury.

Is this fair to the physician? Also, is the physician fair to the poorer neighbor of whom he exacts a full fee because he pays promptly, and then discounts the man of wealth because the latter insists upon allowing his indebtedness to accumulate "without use" for three, four, and five years.

This is no exceptional instance, and so far as the medical man is concerned can be deemed nothing but misbegotten and useless charity. With some, such is lackeyism, but we are glad to believe this is a comparatively rare feature among general practitioners; in most instances it is carelessness and the non-application of business methods in association with business men.

This brings us back to our text as the sole panacea of these evils, viz: "Terms Cash," and "business methods applied to business, and between business men."

Brother practitioner, "be just before you are generous"—just to your family, to your brethren, to your patients all alike, and lastly, to *yourself!*

THE UNNECESSARY EDUCATION OF CHILDREN.

"There is a strong moral," says The Annals of Hygiene, "in the story related of the mother who was unable to help her little child in deciding as to whether the *Putamayo* joined the Amazon *east* or *west* of the confluence of the *Marañon* and *Ucayle* rivers. Shifting the scene to a period some twenty years later, we find this child, now a mother, asking *her* little child, who is struggling helplessly with the geographical problem that is troubling her, what it is. Upon learning that her daughter is endeavoring to locate the *whereabouts* of the river Amazon, the mother, after considerable reflection, tells her that she thinks it is somewhere in Africa or Asia, but she really forgets which. The mind in the brain of this woman is the same mind that years before was endeavoring to solve the problem already referred to in relation to this selfsame river, the very locality of which, in mature years, she is unable to decide, owing to the fact that since her schooldays she has had no special reason for thinking of the river Amazon. So is it with very much of the knowledge which our little children are compelled to acquire by our present system of school education—knowledge that will be of no earthly practical use, either in a material or æsthetic sense, in after life.

"Does it not seem somewhat ridiculous to force our children to fill their minds with knowledge that, as we have said, can never be of any special service to them; and further, when we reflect that in very many instances we are imposing upon these children tasks that by their magnitude must prove more or less injurious to the health of the child? Does it not seem cruel, or we might even say brutal, because, while we must admit that much, as we have said, of this learning will never be of any practical use, we cannot, at the same time, help but admit that there is nothing, absolutely nothing whatsoever, that will be of so much use to the child in after life as good health."

LAVATORY ACCOMMODATIONS.

Mr. Horace J. Smith sends to the Philadelphia Times the following sound practical sense:

In Europe abundant provision is made at frequent intervals along the streets for the necessities of human nature. The delicacy of the American people will not permit the public places for these necessities that are universal on the Continent; and yet we must find some method of meeting the wants of men, women and children, a method that will accord with the feelings and usages of our countrymen.

From all around the city are daily coming large numbers of people who are ignorant of the places where they can find the thing that they need. Many physicians would give painful testimony as to the results of this lack of accommodation. Oftentimes in the places provided as a gratuity, the accommodations are unclean and unsuitable.

The only way to secure cleanliness is that the person using these accommodations should pay, as in Europe. We have a right to demand the value of what we pay. In this way only can the wants of the community be met.

We already have conventional signs, such as the barber's pole, and so the notice referred to might be a conventional sign, but need not be anything near as large; in fact, need only be a few inches in diameter, or it might be a simple card, as follows:

LAVATORY ACCOMMODATIONS
FOR
LADIES AND CHILDREN

PRICE, FIVE CENTS.

The modest lady passing along the streets, seeing the sign in a suitable store, goes in, pays her money for what she and the children need. Having paid for the service, she can demand such cleanliness and such accommodations as she has in her own house.

This is a subject which should be taken up by such associations as are formed among ladies, by the plumbers and sanitary organizations, and by medical associations; when once fairly demonstrated as the suitable method of solving this difficulty, it will spread itself over the whole of America. But no one need wait

for anyone else. Any store-keeper or householder is entirely competent to carry out this idea at once and without conference with any organization, if, indeed, any organization is needed.

There is no vulgarity in speaking of these matters so essential to the health and well-being of the community; but vulgarity is the speaking of those things about which there is no necessity of talking.

The lack of such needed reform is the common cause of many ailments that now affect both sexes; it is especially a tax upon elderly people, who are often forced thereby into compromising situations; and we hope the suggestions thus timely thrown out will bear fruit in every city in the United States. Mr. Smith but voices a crying need, one that obtains recognition in every civilized country but our own.

COLOR OF THE NEGRO INFANT AT BIRTH.

This is a subject that has obtained considerable discussion of late in the medical press, and even our lay brethren have been attracted thereto in not a few instances. Many, following the teaching of Kolliker, hold that the skin of the negro infant is not pigmented at birth—that it differs in hue nowise from the Caucassian babe—but that the color is rapidly developed afterwards in proportion to its exposure to light.

On what grounds Kolliker based his teaching, it is difficult to surmise. As a matter of fact, from personal experience in attendance upon "daughters of Africa," we have long known this assumption to be false. And now Dr. Morrison, of Baltimore, Maryland, has taken the matter up, and reports the examination of the skin of a fœtus born of black parents (both), and found pigment in the lowest layers of the *rete mucosum*. He also found pigment in the skin of a mulatto child that was "still born."

Dr. Bowen, in Boston Medical and Surgical Journal, thinks pigmentation is marked from the first in the purely black offspring—*i. e.*, children of dark parents—but that Kolliker's views hold good as to infants with considerable infusion of white blood; they are white-skinned at birth, but the pigment is deposited in the *rete mucosum* within a few days.

This we hold improbable, or at least only partly true; as in so far as we have observed, there is the characteristic pigmentation at birth, though such undoubtedly in some instances deepens its hue afterwards. In one instance the child was *lighter* by two or three shades at five years of age than at birth.

Cyanide of Gold is said to be the substance used by Koch in his experiments to prevent the development of the tubercle bacillus in Guinea-pigs.

Book Notices.

Comparative Physiology. By Wesley Mills, M. A., M. D., L. R. C. P. (Eng.). Cloth, 8vo, pp. 700. Price, $4,00. Published by D. Appleton & Co., New York.

A marked feature of this volume is the teaching of general biology, and thorough treatment of the phenomena of reproduction, in the introductory chapters.

Though conceived as a text-book, more especially for veterinary students and practitioners, its value is such as to give it general scope, and it is available as well for the student of general medicine. No one can peruse it without finding his ideas of physiology broadened, and his knowledge correspondingly increased.

The comparative method of treating physiology, as adopted in this volume, is now recognized as the only true one, and this necessitates familiarity with embryology and the welding principles of evolution as part of the essential structures of Zoology. In this way accuracy and clearness of observation are inculcated.

Systematic instruction in either macroscopic or microscopic anatomy, has not been undertaken; indeed, could hardly have been attempted without increasing the bulk of the volume to inconvenient limits, by taking from the space that is required for physiology proper; nevertheless attention is duly called to those points which have especial bearing upon functions.

The author at the very outset makes use of embryological facts to throw light upon the different functions of the body, and especially their relations and interdependence. It therefore became necessary to treat of this subject early. It is expected, however, that the student will return to it after reading the remaining chapters of the work."

All in all, the volume is one that is needed by every earnest progressive practitioner and ph siologist.

Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D. Cloth; 12mo; pp. 271. Price, $2.00. Published by P. Blakiston, Son & Co., Philadelphia. For sale by Geo. S. Davis, Detroit.

This work is the outgrowth of experience, and designed expressly to meet the needs of pharmacists deficient in knowledge of the Latin language, as well as their students and apprentices. The author truly says that experience in teaching clearly shows that students who have not studied the language are at great disadvantage compared with those who possess a fair knowledge thereof:

They were found to be much slower in understanding the terminology and securing a firm grasp of the subject presented; and without a clear knowledge of terms, satisfactory progress

was impossible. To remedy this difficulty, all pharmacy and first year medical students were required to study Latin, using the same text-books as the classical students. The result was a great improvement, but not as great as was anticipated; something was found to be still lacking, for though the student made fair progress in learning the language, he of course made no progress in learning the peculiar terminology of his subject.

The author then sought a text-book suitable for the purpose, but none could be found, when at the suggestion of others, and solely from his own experience and observation, the volume before us was prepared. With no data to guide, Prof. Robinson has succeeded in making a practical work—has fully lived up to his motto: "A minimum of theory with a maximum of practice." The questions to be answered in Latin, carried through many lessons, will be found very useful in enabling the student to master a large vocabulary early in his study. Besides, the volume contains for translation many Latin prescriptions and formulæ.

No physician or pharmacist at all deficient in knowledge or weak in his memory of Latin, can afford to be without a copy of this work.

THE ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. Edited by Charles E. Sajous, M.D. 5 vols. Cloth; 8vo. Price $15.00 the set. Published by F. A. Davis, Philadelphia.

It is a genuine pleasure to record that this stupendous work, now in its third year, maintains the high standard of the previous issues, and indeed in some particulars surpasses them. The volumes for this year were somewhat delayed owing to the fact that many of the editor's co-workers were attacked with influenza; but Dr. Sajous is to be congratulated on the way in which he overcame all difficulties, and upon the co-operation of printers and illustrators, who have all combined to present an attractive summary of recent medical work in all its branches. Without this publication the medical man must be practicing his profession at a disadvantage.

With each succeeding year the work is giving improvements in the direction of rendering it of the greatest practical service; and its value is considerably enhanced by the numerous and excellent illustrations, colored and uncolored, with which it abounds.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M. D. Cloth, 8vo., pp. 900. Price $4.50. Published by Lea Brothers & Co., Philadelphia.

This is the seventh edition of this well-known treatise, which is evidence of its standing both as a text-book and work of reference. In the amount of information presented, the volume may properly be considered to have doubled in size, yet this real growth has been accommodated without rendering the book inconveniently large, by consolidating the text and excluding all obsolete material.

Among the diseases treated of that have not appeared in former editions are: Conjunctivitis; Icterus; Sepsis; Umbilical Diseases; Hæmatemesis; Melæna; Sclerema; Œdema; Pemphigus Neonatorum; Epilepsy; Tetany; Appendicitis; Typhlitis; and Perityphlitis. The paper on Intubation, also, will be found interesting and instructive to those who perform this operation, as well as to those who wish to learn its *technique*.

One fact, alone, renders the work of the highest value to the practitioner, viz.: That prevalent and fatal diseases are described at considerable length, and special attention bestowed upon treatment; and not content with expressing his own ideas upon the latter, the author has in many instances related the methods of others for comparative study of the values and relations of remedies.

THE PHYSICIANS' PERFECT CALL LIST FOR 1891. By G. Archie Stockwell, M.D., F.Z.S. Flexible morocco, long 16mo.; pp. 200. Price, $1.50. Published by Geo. S. Davis, Detroit.

In size and shape, this is by long odds the most convenient and best of all the "Visiting List" series. A prominent feature is the absence of all "deadwood" and advertisements, and the extremely convenient and practical arrangement of most practical contents. The information demanded for ready reference are upon the inside of covers or on fly-leaves. The posological table, too, is a new departure that cannot fail to commend itself, being very thorough and complete, newly revised, and embracing the very latest, (including the non-officinal), remedies introduced. Especially commendable is the obstetrical table, in two colors, and the arrangement for the concise keeping of all accounts, debit, credit, expense, losses, etc. Paper and binding are alike superb.

EPILEPSY, ITS PATHOLOGY AND TREATMENT. By Hobart Amory Hare, M. D., B. Sc. Cloth, 12mo., pp. 228. Price $1.25. Published by F. A. Davis, Philadelphia.

It is sufficient to say that this is the essay that gained for its author the 4,000 francs prize of the Royal Academy of Medicine, Belgium. It is representative of the most advanced views of the profession, and the subject is pruned of the vast amount of superstition and nonsense that generally obtains in connection with epilepsy.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION. Colth, 8vo., pp. 343. Published by the Association.

Besides the minutes of proceedings, list of members, etc., etc., we find no less than five special papers on Surgery; ten on Practice of

Medicine; four pertaining to Obstetrics and Diseases of Children; and one each of Gynæcology and State Medicine. Though badly printed on bad paper, the material is in the main excellent.

ESSENTIALS OF PRACTICE OF MEDICINE. By Henry Morris, M.D. Cloth; 12mo; pp. 368. Price, $2.00. Published by W. B. Saunders, Philadelphia, Pa.

This is a double number of Saunders' series of "Quiz Compends," and has a supplement of sixty-eight pages devoted to the Clinical and Microscopical Examination of Urine, by Lawrence Wolff, M.D. The work is of the same average value as others of this series.

ESSENTIALS OF THE PRACTICE OF PHARMACY By L. E. Sayre, Ph. G. Cloth; 12mo; pp. 180. Price, $1.00. Published by W. B. Saunders, Philadelphia.

This is a work of more value to the physician who is ignorant of the subject, than to the student who desires a thorough pharmaceutical education; and to the former we cordially recommend it.

OLEATES AND OINTMENTS IN SKIN DISEASES. By John V. Shoemaker, M.D. Cloth; 12mo; pp. 298. Price, $1.50. Published by F. A. Davis, Philadelphia.

The title of this work sufficiently indicates its scope, and while we may disagree with the author in some of his conclusions, there remains sufficient in the work to interest the practitioner.

A REPORT ON NEW REMEDIES. Compiled by Robt. G. Eccles, M. D., and Prof. W. A. Viall. Paper, 8vo., pp. 24. Price 10 cents. A reprint from the Proceedings of the N. Y. State Pharmaceutical Association.

Every physician and pharmacist should have a copy, which may be obtained of Mr. Clay Holmes, Elmira, N. Y.

THE PREVENTION OF SHORT LEG AFTER HIP DISEASE, AND THE AFTER-TREATMENT OF HIP DISEASE. By A. B. Judson, M. D. Paper, 8vo., pp. 16. Reprint from Transactions of the American Orthopædic Association.

Two most commendable papers that will well repay perusal.

QUARANTINE. By Walter Wyman, M.D. Paper, 8 vo., pp 50. Published by F. A. Davis, Philadelphia.

This is a reprint of Chap. XXII of Dr. Geo. H. Rohe's "Text-Book of Hygiene."

THE PENDENT LIMB IN THE TREATMENT OF JOINT DISEASES OF THE LOWER EXTREMITY. By A. B. Judson, M.D. A three-page reprint from Transactions of the Medical Society of the State of New York.

A CRITICISM OF WILLETT'S OPERATION FOR TALIPES CALCANEUS. By A. B. Judson, M. D. Paper, 12mo., pp. 12. Reprint from N. Y. Medical Journal.

Notes and News.

Hints in the Business of Practice.—The successful practitioner needs no hints. But he who is ambitious is often in need of counsel. In the Cincinnati Lancet and Clinic, August 2nd, 1890, we find the following, which may mean "good business," but is somewhat remote from strictly "good morals:"

Patients should always be kept waiting a few moments; it calms agitation and leads them to think you have another client in your private office. Always open and close the inside door of your private office, so as to leave the impression that you have just dismissed a patient from your inner sanctum. It is best also to rattle a few silver pieces of large size. This reminds the outside client that fees in cash are in order. In consultation the great secret of success is to know how to listen; a patient always desires to unbosom himself to a medical confessor. Show me a good listener, and I will show you a man with a large practice. Be sympathetic and patient, giving the client's tongue full swing. Some will talk much, some but little. Do not interrupt a patient's conversation, as it will lead to prolixity; if he does not talk much make him repeat the most interesting details of his case. This produces a grand moral effect, and as good thinkers are often poor talkers, you will often be mistaken for a savant and highly esteemed by the patient. Be careful that no detail of the consultation shall turn to your disadvantage. One of the most vigorous precepts of charity in medicine make it imperious to console and reassure a patient, leading him to always hope for a cure, even though you know the malady to be incurable. Never make a slight affection appear to be slighter than it is. The doctor in slight illness should give positive assurance that he can cure the malady—in time. As a general rule a patient loves to persuade himself that he has been in great danger, and this compensates for the medical fees he pays. It is bad policy not to make a patient realize that he owes you something more than money can repay. Permit him to feel under personal obligations. If he thinks you saved him from death when he was really in no danger, do not tell him to the contrary. Avoid dangerous exclamations such as fall from the mouths of honest young practitioners in their first innocent verdancy, as for instance: "Ah! it's nothing. You are only a little indisposed. A little dieting will remedy all. Don't take medicine when you do not need it." Physicians who are honest, or rather impolitic enough to tell the truth, are not money makers, nor are they esteemed by their clients. Most people who visit a doctor desire to be told that they are ill. To tell them the contrary is to make them out asses. Nine people out of ten who visit a doctor's office are but slightly indisposed, but tell them the truth and they will seek some other physician for consultation. The men with the largest practice are the patient listeners and greatest liars. These two things are pre-requisites for success. A doctor may be a talkative man and converse with his clients, but the brainless, silent, and austere physician will beat the most brilliant conversationalist in the pecuniary emoluments

of the profession. Make it a point never to allow a patient to leave your office without a written prescription. It is also good policy to give your client written directions as to diet, etc. Don't be afraid to waste prescription paper on any patient. Fill in boldly the *recto* and the *verso*, and the client feels that he is getting his money's worth. The young doctor who says to the patient, "Never mind a prescription; go to the pharmacists and get a dose of salts," is an ass who will learn better after a while.

Too Rapid Increase in Population a Factor in Premature Death.—Mr. Drysdale, of London, during a discussion at the late International Congress said:

Nature's law of the struggle for existence, discovered by Darwin, plays a weighty rôle in modern human society; the weak succumb, the stronger survive But to-day the weaker man is not he who is more feeble in physical equipment, but rather the poor man, and it is the poor man who must give way in the struggle for life. A proof of this is the greater mortality prevailing in the poorer districts, as statistically established. And just as poverty is the chief cause of this great mortality, so is the large family in turn the cause of this poverty. The number of children in marriage, however, may be limited at pleasure. No one should have more than three children. Germany is famous for its wealth of children, but of what profit is this blessing, if a deterioration of the physical and moral conditions of life for the poor, is thus produced? A married man who fails to pay deference to the Malthusian theory causes his own destitution. On the strength of conviction, I go so far as to make the assertion: "He who gives life to more than three children, is an ass."

The speech was received, for the most part, with pronounced opposition. M. v. Czatary of Budapest, in contravention, urged the "demands of State," whereby each human life represents a fund of labor and defensive power to the State. With respect to the disadvantage to the poor in the struggle for existence, he thought this not an established fact, as he had known poor people who reached an advanced age. "It is not necessary that one be provided with the world's goods at birth, in order to insure a comfortable life. By dint of labor, even a poor man may increase his store, and thus prolong his life."

Mr. Albert, of Palmberg, opposed Mr. Drysdale with statistical data, and also clung to the economical principle that each human life represents a fund of wealth to the State. Mr. Wachsmuth, of Berlin, added: "We Germans need many children, especially healthy lads, because we need many soldiers."

Mr. Drysdale rejoined he could not yield his ground despite all attacks. It may be that a large number of children represent value to the State, but assuredly not to the family. His own practical philosophy taught him that man is here to enjoy life, and not to be slaughtered as a soldier. For each child born, there is not now a good prospect for existence. He would distinctly assert that from a moral point of view, no man has the "right" to bring more than three children into the world.

Sauce for the Goose is not Sauce for the Gander.—There was once a rich woman who discovered that she was about to become a mother, but to do so would put her to some inconvenience and for a short time interfere with her pleasures. So she sent for her physician, who was very noted and respectable. As a result of preventing her from becoming a mother she died. The doctor certified that she died from peritonitis. Her remains were prepared for burial by a fashionable funeral director. Her funeral sermon was preached by a fashionable clergyman. The fashionable doctor attended the funeral. Everybody mourned the death of the estimable Christian woman. Everybody was satisfied. "Because," said they, "whatever a rich woman, a noted doctor, a fashionable undertaker, and a swell clergyman do is all right." There was once a poor cigarette girl, named Annie Goodwin, who discovered that she was about to become a mother, but to do so would prevent her from ever making a living, except by a life of shame. So she sent for a doctor named McGonegal. As a result of preventing her from becoming a mother she died. The doctor certified that she died from peritonitis. Her remains were prepared for burial by an undertaker named Merritt. She had no funeral sermon, but was buried secretly. The police heard of it and arrested the doctor, the undertaker, the woman in whose house the cigarette girl died, a little boy, a girl friend of the dead woman, and the girl's lover. And everybody said it was horrible that so many persons should have conspired to murder the cigarette girl. They even wanted to lynch the doctor. "Because," said they, "unless such things are done by a rich woman, a noted doctor, a fashionable funeral director, and a swell clergyman, they are frightful crimes."—*Twentieth Century.*

To Restore the Color of the Hair.—H. L. Harris, San Lucas, Cal. writes the Medical World as follows:

One who is prematurely gray, can, by taking one drachm of jaborandi daily, restore his hair to its natural color, as the jaborandi possesses the power of restoring the coloring pigment. I received my information from a doctor, sixty-two years old, who took it himself, and kept his hair a natural color, and so preserved a youthful appearance. The drug can be taken in divided doses. Say, that one drachm may be divided into four or five doses, thus taking the quantity daily.

All the same, we would not advise anyone to try the prescription without fully taking into consideration the physiological action of the drug.

Take Time to Eat.—The opinion that hurry in eating is a prolific cause of dyspepsia is founded on common observation. The ill results of "bolting" the food have been attributed to the lack of thorough mastication, and to the incomplete action of the saliva upon the food. Two-thirds of the food which we eat is starch, and starch cannot be utilized in the system as food until it has been converted into sugar, and this change is principally effected by the saliva. But there is a third reason why rapidity of eating interferes with digestion. The presence of the salivary secretion in the stomach acts as a stimulus to the secretion of the gastric juice. Irrespective of the mechanical function of the teeth, food which goes into the stomach incompletely mingled with saliva, passes slowly and imperfectly through the process of stomach digestion. Therefore, as a sanitary maxim of no mean value, teach the children to eat slowly—and in giving this instruction by example, the teacher, as well as the pupil, may receive a benefit.—*Sanitary Inspector.*

Supposed to be a Maternal Impression.—Dr. Grace Danforth has reported a case in which a child was the exact image of a gentleman who sat opposite the mother at meal-time, and was not her husband. There was no question of paternity, the doctor thought, neither was there any reason to believe the woman harbored any feeling toward her *vis-á vis* which she would not have been perfectly willing to acknowledge to her husband. The young man was red-headed and freckled.—*Kansas City Medical Record.*

Query:—Are we to believe the baby was freckled, with luminous hair? There are strange things in this world, Dr. Grace, but nothing more strange than the ways of woman.

Poison in Greenbacks.—It seems to be an admitted fact, disputed by no one, that there is real danger to health in the manufacture of our paper money as at present carried out. The green color on the back of the notes is produced by arsenic, and we are told that it is not uncommon for those working with these notes to have an unpleasant, unsightly eruption of the skin, caused by this drug. Would it not be just as easy to make these notes some other color, and are we justified in continuing the green color when we know for a fact that it works an injury to those who are employed in the manufacture of this money?—*Annals of Hygiene.*

Effect of Corsets on Monkeys.—Some experiments have recently been made as to the effect of tight-lacing on monkeys. Female monkeys were put into plaster of Paris jackets, to imitate stays, and a tight bandage placed around the waist to imitate a petticoat band. Several died very quickly, and all showed signs of injuries resulting from this treatment. Of course, with a human being, generations of use have bred a tolerance so that, while we do not find such immediately fatal results, those who are capable of forming an opinion yet know that the constriction of the vital organs of the body caused by tight-lacing is continually working mischief within.—*British Med. Journal.*

A Test for Water.—The following is given as a test for the purity of drinking water: Dissolve half a teaspoonful of the purest white sugar in a pint bottle completely full of water to be tested, tightly stopped; expose to daylight, and a temperature up to 70°. After a day or two examine, holding the bottle against something black, for floating specks, which will betray the presence of organic matter if in considerable proportion.

The Southern Surgical and Gynæcological Association will hold its next annual session in Atlanta, Georgia, November 11th, 12th and 13th, 1890, with Dr. George J. Engelmann of St. Louis, Missouri, as presiding officer. An excellent series of papers are promised, more than thirty already being listed. Members of the medical profession are cordially invited.

Costly Experimentation.—A Cincinnati court recently gave judgment against a doctor because he had injected "elixir of life" into the leg of a paralytic. The service was free, the old man consenting in the hope of being relieved. An abscess formed at the spot of injection, for the inconvenience of which the doctor was compelled to contribute of his wealth.

A Wonderful Doctor.—The Indiana Medical Journal, in order to ascertain the powers of an advertising "Indian doctor," sent him, with a history of his castrated horse, some of the horse's urine. The doctor replied, he found human spermatozoa therein, and that he could guarantee a cure in about seven months.

The State Medical Society of Arkansas has started a monthly medical journal, somewhat after the plan of the Journal of the American Medical Association, which is under the managing of Dr. L. R. Gibson, of Little Rock. We cordially wish it success.

Prof. E. Ray Lankester, F. Z. S., widely known for his original researches in Zoölogical science, has recently been elected to fill the chair of Deputy Professor of Human and Comparative Anatomy at the University of Oxford.

Alphonse Daudet and Prince Bismarck have smoked more tobacco than any other two men in Europe.

A Bilious Man, hunting for something to get angry at, is generally successful in his search.

Therapeutic Brevities.

Lanolin as a Vehicle for Acid and Salt-bearing Liquids.—Unna discusses in the Therap. Monatshefte, the employment of lanolin for the production of salves with acid or salt-bearing liquids. Some time ago he essayed the introduction into dermatological practice, of acetic acid, sulphurous acid, hydrogen peroxide, and chloride of calcium, but was thwarted by the difficulty of applying the last three. By incorporating these liquids in lanolin salve, however, all obstacles have been overcome and he recommends the following:

Acetic Ointment:

Vinegar	40.00	grammes.
Simple ointment	20.00	"
Lanolin	10.00	"

Ointment of Aluminium Acetate:

Liquor aluminium acetate	40.00	grammes.
Simple ointment	20 00	"
Lanolin	10.00	"

Ointment of Calcium Bi-sulphide:

Solution calcium bisulphide	40.00	grammes.
Simple ointment	20 00	"
Lanolin	10.00	"

Such ointment contains 5.61 per cent. of $CaSO_3$ and 4.88 per cent. free SO_2.

If the solution of bisulphide of calcium be mixed with lanolin freed from water, a salve is obtained which yields no sulphurous acid, not even suggesting the odor; only on triturating it with water is the sulphurous acid developed. If, however, at the very first, as above prescribed, a mixture of lanolin and glycerin fats be triturated with the solution of calcium bisulphide, the mixture at once proves a rich reservoir of sulphurous acid. And here the excellent adhesive properties of lanolin, in contradistinction to other fats, are exhibited, with special reference to a gas dissolved in liquid.

The employment of the calcium bi-sulphide instead of an aqueous solution of sulphurous acid, is resorted to, in order to bind the sulphuric acid which develops from the oxydation of the sulphurous acid, and to avoid its action upon the skin, so that the action of the sulphurous acid may alone be brought into play.

While other reducing agents, such as pyrogallic acid, resorcin, chrysarobin, and sugar, develop their greatest vigor in alkaline reaction, we have in sulphurous acid a reducing agent which is distinctly acid. This will fill many a want, as it may be assumed that there are micro-organisms which would be injured by the reducing process especially in acid solution.

Ointment of Hydrogen Peroxide:

Solution of hydrogen peroxide	20.00 to 40.00	grammes.
Vaselin	20 00	"
Lanolin	10.00	"

In this instance vaselin, which is not oxydized by hydrogen peroxide, was preferred to the glycerin fats. In order to prolong the action of the hydrogen peroxide, vinegar may be added. The ointment is an excellent remedy for the removal of comedones,—that is, for rendering pale their black points, which are based upon a deposit of coloring matter, and not as is widely assumed, a deposit of dirt.

Ointment of Chloride of Calcium:

Solution chloride of calcium, 33.3 per cent	40.00	grammes.
Simple ointment	20 00	"
Lanolin	10.00	"

To this neutral chloride of calcium salve, which is to be regarded as the fundamental form, may be added for varying methods of treatment (in acne, ichthyosis, etc.), other substances, such as zinc ointment, precipitated sulphur, hydrogen peroxide and resorcin.—*Pharm. Centralhalle*, Sept., 1890.

Treatment of Diphtheria.—If patient is seen at an early date, give a full calomel cathartic and then iron and quinine in full doses every three hours; between each dose of iron and quinine a full dose of ammoniated tincture of guaiac is administered in syrup of orange. Give plenty of nutritious food.

Local Treatment.—Apply, morning and evening, by means of a wad of absorbent cotton held in a properly curved laryngo-pharyngeal sponge holder, a saturated solution of iodoform in sulphuric ether to every part covered by the diphtheritic membrane; if this membrane extends up well into the nasal cavity it can be reached by either blowing finely powdered iodoform or the above solution as a spray through the nostrils. The nurse is instructed to repeat these applications both to throat and nose several times during the twenty-four hours. If the ether and iodoform are pure, about one part of iodoform will be dissolved in five parts of ether and the solution will soon become of a bright red color. In a large number of cases, I have never seen, after a thorough application of the solution, the diptheretic membrane spread, nor have septicæmic conditions followed. The application is at first painful, but within a minute this passes away, leaving great ease, comfort, and freedom from pain. In addition to this, the patient is required to gargle freely every fifteen or twenty minutes with: Boracic acid, grammes 15.00; glycerin, grammes 2.00; water, grammes 360.00. Externally, the throat is wrapped with flannel, saturated with spirits of camphor.—Dr. X. C. Scott, in *Med. Mirror.*

Anemone Pulsatilla in Dysmenorrhœa.—Bovet in a communication to the Society of Practical Medicine, calls again the attention of the profession to the analgesic properties of pulsatilla in uterine affections in which pain is a prominent symptom. He has treated twenty-two cases of dysmenorrhœa, six of metritis and perimetritis, two of ovario-salpingitis, two of fungus endometritis, etc., giving two to ten drop doses of the tincture, or one to two grains of the extract, several times during the day.

He regards pulsatilla as the analgesic *par excellence* in uterine maladies, and it is well known that anemone is one of the best remedies in blenorrhagic orchitis.—*E. P. Hurd, M.D.*

Medical Progress.

TRANS-ILLUMINATION OF THE LARYNX AND THE ANTRUM OF HIGHMORE.—This subject has engaged the attention of laryngologists for the past year, and it is to be deplored that the founder of the method, Prof. Voltolini, died before its perfection. To get a view of the interior of the larynx, the electric lamp is applied to the external surface of the neck, either at the *pomum Adami* or near the cricoid cartilage; the laryngoscopic mirror is passed into the dark pharynx, when a distinct view is readily obtained. The appearance is very different from that ordinarily seen, the whole larynx showing a reddish tint. With the lamp at the level of the incisura thyroidea, the vocal bands and all parts above them appear to be of a bright red color, the epiglottis dark. With the lamp near the cricoid cartilage, a very satisfactory view of the whole subglottic region down to the bifurcation of the trachea is obtained. What in ordinary illumination impresses one as thickening or enlargement, appears in trans-illumination as a dark object which the rays of light have been unable to penetrate. For this reason the method offers great advantages in the defining of tumors, the dark outlines being clearly distinguished from the other parts brought into view. It is easy to be seen how in certain cases the diagnosis may be rendered comparatively certain by this method, between a solid tumor and a cyst. The method is also very valuable in ascertaining the extent of ulcerative processes and other pathological conditions in the larynx, such as the difference between an œdematous vocal band and an infiltrated one. For the purpose of diagnosticating diseases of the antrum of Highmore, and the nose, a small lamp is taken into the mouth, which causes illumination of the whole face. The nose can be thoroughly explored with this light, and if any growths are present they are brought into view in the same manner as the intra-laryngeal growths. In the normal condition the nasal floor is permeable to the rays of light; if this should, however, remain dark, and the nasal cavity be clear, it would be reasonable to conclude that there must be a body in the antrum which cuts off rays; this may be either pus or a solid tumor. The presence of hypertrophied bodies does not seem to interfere with trans-illumination. In several cases in which the hypertrophies were marked, I have been able to accomplish perfect illumination. The non-appearance of light, even after thoroughly removing all visible obstacles from the nose, is such an important symptom that by it an almost absolute diagnosis of empyema of the antrum can be made. In most of these cases there is no difficulty in making a diagnosis at any time, but in a certain number the most experienced diagnosticians are sometimes in doubt. It is in this class that the trans-illumination is of permanent value. For the exploration of the antrum an absolutely dark room is necessary, but not so for the larynx.—Dr. W. Freudenthal in *N. Y. Med. Journal.*

TREATMENT OF GOITRE.—If the goitre is cystic in character, the several methods of surgical treatment usually recommended only offer a fair chance of cure. The injection of the cyst with iodine or various strengths of carbolic acid is occasionally successful; the exposure of the sac by dissection, the incision of its walls and suturing the latter to the skin, as in Volkmann's operation for hydrocele, although often successful, is far from being a radical operation. In a strictly parenchymatous goitre the methodical injection of tincture of iodine offers a fair chance of success, when the tumor is soft and vascular, but where it is hard and dense, excision must be performed (Gerster).

Mercury, in some form or another, has always held first rank in the local treatment of goitre, but as the failures with it have been so many and the successes so few, it has been relegated to the domain of uncertain therapeutics. Believing that the poor results generally obtained from mercury were due to the faulty methods in using, or to the use of the wrong preparation, or that the preparation was poorly made pharmaceutically, I was led to adopt a method very different from that usually recommended. The drug I use is the red oxide of mercury (red precipitate). The official ointment has a strength of 10 per cent., or 48 grains to the ounce; I am in the habit of beginning with double this strength and gradually increasing, until, with some individuals, a strength of what we might call complete saturation is reached. This ointment is rarely irritating to the skin, excepting in very warm weather, at which time its strength should be reduced. In none of the cases treated have I seen any of the systemic effects of the mercury. The best ointment base is, undoubtedly, lanolin; but in warm weather a more consistent one is needed, such as simple cerate. But by far the most important point in the use of the red oxide of mercury ointment is the thorough and minute division of the red oxide—it should be triturated for a very long time into an impalpable powder, and then gradually and thoroughly mixed with the ointment base; the powdered red precipitate as found in the shops is far from being a powder, but is the form generally used by pharmacists when preparing the ointment.—Everett J. Brown, M. D., in *North American Practitioner*, Aug., 1890.

FÆCAL RESEARCHES.—A pathologist of Moscow has had the courage to examine the fæces of a thousand inhabitants of that city in order to ascertain what proportion of them suffer from one or other form of worms. The results of his painstaking researches are not devoid of interest, though it is open to question *si le jeu valait la chandelle.* He found ova present in the thousand samples of fæces to the extent of 33 per cent., the proportion being higher in women (38.15 per cent.) than in men (29.74 per cent.). Age, again, seemed to be a factor, for ova were detected vastly more frequently in the fæces of subjects under fourteen years of age (45.49 per cent.), while at a later period of life—over sixty—this only obtained in the proportion of 14.81 per cent. He found representatives of most of the intestinal worms, ascarids and bothriocephalus being the most common, and the tænia solium the most infrequent. During the autumn months intes-

tinal parasites were met with more frequently than during winter and summer, but the season appeared to exercise a notable effect on the prevalence of individual varieties; thus, ascarids occurred most freqently at about the end of the summer season and during the autumn, bothriocephalus during the autumn and winter, while tricocephalus triumphed indifferently in all four seasons of the year. Respecting racial preferences, he remarked that the Hebrew race suffered rather more than other nationalities, but among all nations the poor are naturally more liable to harbor these parasites than the well-to-do. As might be anticipated, particular occupations predispose to special varieties of the enemy, but the results in this respect are less conclusive. One important observation is that bearing on symptomatology. Of 306 hosts, 88 did not present any symptoms referable to the presence of the parasites, but in the remaining 218, gastro-intestinal disturbances and other nondescript symptoms were complained of. Curiously enough, the vast majority of the hosts entertained no suspicion whatever of the contents of their intestinal canal, and the author points out that in all obscure cases of anæmia, emaciation, and gastro-intestinal or nervous disturbances, it is eminently desirable to institute a careful microscopical examination of the fæces for the purpose of detecting the presence of ova.—*Medical Press and Circular*, August 20th, 1890.

Massage and Mobilization in the Treatment of Fracture. — Dr. Lucas-Championnière has just brought out a work which is a *résumé* of communications that he had made to the Société de Chirurgie on the application of massage and mobilization in the treatment of fractures. The treatment the most efficacious of fractures is massage, but it must be applied whenever it is possible to do so. The application of massage may be divided into four classes:

1. Immediate and continued massage.—This may be employed in fractures susceptible of slight secondary displacement, or where the displacement interferes but little with the functions of the bone, such as fractures of the radius or of the fibula, fractures occupying the neighborhood of joints, partial fractures of the elbow, fractures of the neck of the humerus, certain fractures of the condyles of the femur, and fractures above the ankles.

2. Massage before the limb is put into an apparatus.—Applicable to fractures of the wrist with great mobility, fractures above the ankles, fractures of the superior extremity of the humerus, and to the most mobile fractures.

3. The apparatus once placed is removed after two or three days; then methodical massage is practiced, the apparatus replaced, and removed again each day.

4. Immobility is necessary during some days, at the end of which time the union is sufficient to have the apparatus removed and massage practiced. The manœuvres of massage comprise three orders, viz.: Movements of exploration; movements of massage properly speaking, movements produced in the neighboring joints.

The author concludes with a statement that he has obtained the following results: Rapid disappearance of the pain, the almost immediate re-establishment of the function of the limb, and the disappearance of the swelling, and extreme rapidity of the formation of the callus.—*Medical Record.*

Artificial Hypodermic Respiration.—All living things have a surface of absorption and elimination, by which oxygen finds entry into the body's substance, and the carbonic acid there is set free. In the higher animals the absorption and elimination respectively of these gases are carried on by means of a special apparatus, the lung, where the blood takes up its vital oxygen and rids itself of its burden of carbonic acid. But this same process is repeated, in the interior of the tissues, between the blood and cells situated at the actual focus of combustion. Oxygen introduced by hypodermic injection is absorbed by the capillaries in the same way as the oxygen which passes into the pulmonary alveoli is absorbed by the surrounding capillary network. Moreover, the carbonic acid by which the blood is charged is eliminated at the point where a traumatic emphysema is produced, in the same way as in the pulmonary structure. During the injections the respiratory movements were observed to lessen, and this was proved to demonstration by tracings taken of the thoracic action. The absorption of oxygen hypodermatically was found to be in direct ratio to the surface, and the time the current of gas was kept going. The elimination of the carbonic acid, on the other hand, was observed to vary according to the quantity circulating in the capillary vessels immediately adjacent to the focus of provoked emphysema. It is submitted therefore that it is clearly feasible to set up in the cellular tissues an artificial hypodermatic respiration in every way similar to that which takes place normally in the pulmonary alveoli. Oxygen so injected causes no irritation or subsequent local trouble, but the gas being most active when fresh, that used for this purpose should therefore have been recently prepared. It is suggested, in fine, that artificial respiration thus carried out will be found to render vital assistance in all affections or conditions in which effectual aëration of the blood is impeded through a default in the working of the pulmonary apparatus.—*Lancet*, Aug. 30th, 1890.

Nephrectomy.—Dr. George Ben Johnston, of Richmond, reports a successful case of nephrectomy, and gives the following indications for the performance of the operation:

1. Injury to one kidney which, from hæmorrhage or suppuration, threatens life.
2. Urinary fistula following rupture of the ureter.
3. Unilateral tuberculosis in its early stage.
4. Tumors which are benign, and the sarcomata of adults.
5. When palliative measures have failed to relieve floating kidney, which affords great distress.
6. As a secondary operation in hydro- and pyo-nephrosis.

The Medical Age.

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Original Articles.

POTT'S DISEASE OF THE SPINE.

BY JAS. K. YOUNG, M.D.

This is a progressive inflammatory lesion of the vertebral bodies or intervertebral discs, leading to their partial or complete destruction, usually terminating in anchylosis with the characteristic posterior deformity. It is so called from the accurate description of the disease given by Sir Percival Pott in 1783, although it was well known to Hippocrates, Galen, and the earlier writers on medicine, and also described by Gamper and Sévérin.

Synonyms.—English—*Caries or Osteitis of the Spine; Vertebral Arthritis; Vertebral Tuberculosis; Angular Curvature; Posterior Curvature:* Greek—*Kyphosis:* French—*Mal-de-Pott; Cyphose:* German—*Spitzbuckel; Winkelförmige; Kinkung der Wirbelsäule.* Most of these are too precise, pathologically considered, or obviously contradictory,—as the term "angular curvature," which from a geometrical point of view would correspond to a round triangle, or a square circle,—hence it would seem best to retain the extensively employed "Pott's disease," or, if a more scientific designation is required, to substitute *Spondylitis,* as being the least open to objection.

Frequency.—Authors differ in their opinions in regard to the influence of sex in the ætiology of this disease; those who believe in a traumatic origin consider it more frequent in boys from their presumed greater liability to injury. Schreiber makes the statement that, "Boys are, in general, much more likely to become affected than girls," and quotes the statistics of Nebel, who out of 54 cases found 31 male and 23 female. On the other hand, Nisher found a greater frequency among females; out of 500 cases treated at the National Orthopædic Hospital, London, 261 were females, and 239 males. Gibney found out of 2,455 cases, 1,329 males, 1,126 females. Taylor, out of 412, 234 males, and 178 females. Bradford and Lovett, at the Children's Hospital, Boston, out of 294, 152 males, and 142 females. Allowing in this estimate for the preponderance of females over males in the population, Trèves considers that it would make the disease appear equally common in both sexes, and correct the erroneous impression of a greater prevalence among males. Dr. A. Snyder Roberts* expresses the same belief, and in this the writer concurs. From collected statistics it would appear that the relative frequency with which the disease attacks different portions of the vertebral column is: 1. Dorsal; 2. Lumbar, and; 3. Cervical; and Billroth is authority for the statement that the individual vertebræ are affected in the following order: Sixth dorsal; second cervical; fifth, seventh and eighth dorsal; third cervical; third, fourth, ninth and tenth dorsal; and last the fourth lumbar.

Ætiology.—Pott's disease occurs at all periods of life; it is seen in infancy, youth, adult and extreme old age; Bryant has even described a case occurring in the fœtus. By far the greater number, however, occur from 3 to 14 years. Age is, therefore, a predisposing cause, while sex appears to exercise but little or no influence. It is particularly frequent among the scrofulous, or those suffering from the condition known as strumous diathesis—a condition which, irrespective of external physical appearance or hereditary antecedent, renders the system peculiarly prone to chronic catarrhs, chronic inflammations of bones, glands, and skin,—retrogressive in character, occurring without adequate cause,—and singularly liable to tubercular infection; those in whom there is, in other words, a constitutional predisposition to caseation, or to a tuberculosis of irritated parts. This is particularly well shown in the association of Pott's disease with strumous and tubercular affections in other parts of the body, such as "white swellings," caries or necrosis of bone, etc., and in the antagonism, pointed out by Treves, which exists between such strumous disorders, by which two such affections are seldom manifest at the same time.

Scrofulosis and tuberculosis are then very important factors in the ætiology of this affection, the former being the predisposition, the latter the actual infection. Again, while the diathetic condition is important as a predisposing ætiological factor, a history of traumatism is usually presented as a direct exciting cause; with this predisposition to chronic inflammation present in the system, a slight in-

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* Cyclopædia of Diseases of Children, vol. iii.

† Scrofula and its Gland Diseases, London, 1882.

jury, undue use of or pressure upon certain parts, may initiate the disease. It has, however, been the writer's experience to meet many cases of extensive disease in which no such cause could be elicited—in which definite relationship between trauma and disease was so obscure that he could give but little credit to the former as an exciting ætiological factor. It may be then that the various exanthemata and other depressing diseases of childhood are more directly responsible, or that the disease may occur without appreciable (exciting) cause.

Pathology.—The pathological lesion peculiar to Pott's disease is a destructive osteitis terminating in interstitial absorption or caries, affecting the cancellous structure, and especially the anterior portion of the body; it may involve only one, or several, vertebræ. As a tubercular lesion, it does not differ from the tubercular osteitis occurring in the epiphyses of long bones, and consists essentially of a softening or medullization of the bone tissue, the various steps of the process (congestion, formation of granulation tissue, and degeneration and softening of the new formations, with pus formation, caseation, and bone absorption) following each other in slow succession. The macroscopic appearance of an area of tubercular osteitis is that of a large spot of hyperæmia, surrounding an opaque or grayish centre, with possibly a spot of cheesy degeneration in its centre. Microscopical examination reveals numerous tubercles, and in them are discovered the tubercle bacilli. Instead of being limited to the bodies of the vertebræ, the intervertebral fibro-cartilages and adjacent soft structures may be involved, or in exceptional cases it may be confined to the intervertebral substances.* In that class of cases in which the disease terminates in interstitial absorption (caseation without suppuration), designated as dry caries, or *caries sicca*, many vertebræ are generally involved, and the marked angular deformity is replaced by posterior curvature. In the majority of cases suppuration occurs, and true caries exists; abscesses form and find exit in various situations according to the location of the affected vertebræ; frequently large sequestra are entirely cut off by areas of granulation tissue, producing the so-called *caries necrotica.* When the violence of the process has exhausted itself, the vertebral bodies and arches become consolidated and protected against sudden dislocation by a formative or osteo plastic osteitis which, beginning early by the development of osteophytes from and in front of the bodies of the vertebræ, have locked together and fused into firm, bony anchylosis.

Symptomatology.—Taken together the symptoms of well established Pott's disease are so characteristic that a diagnosis is possible almost at a glance, and yet few diseases in their incipiency present such variations under so many phases as does this affection. There is present in the majority of cases a premonitory stage, often unobserved, the symptoms of which are included in that comprehensive term *malaise*—a condition between vigorous health and debilitating sickness—a want of energy, an irritability, a lowering of all the vital functions, an inactive calm which precedes and premonates the coming storm.

Among the first and most important symptoms is a state of spasm or muscular rigidity of the spine. This is an early, always present, and persistent sign, due either to reflex muscular spasm similar to that constantly found associated with joint disease elsewhere, or an unconscious, automatic effort of the patient to avoid motion or prevent and diminish jar in the affected vertebræ; is a reflex, tetanoid spasm, accompanied by a specific atrophy, especially of the erector spinæ group of muscles, and exhibits itself in the peculiar attitudes assumed, in the diminished normal flexibility of the spine, and in the slight lateral deviations of the column sometimes met with in this disease.

Though cases are recorded where pain is entirely absent throughout the entire course of the disease, it is usually a prominent distressing symptom; the fallacy of the diagnostic value of local pain is now fully recognized. When present it is usually deep-seated, dull, subacute and intermittent, and as a rule experienced at the peripheral distribution of the irritated nerves, either at or below the affected spot,—very rarely above it excepting in some cases of cervical caries. It may be subacute, intense and lancinating, accompanied with hyperæsthesia, or may only amount to an irritation. Thus, a stiff neck, laryngeal irritation, gastralgia, pulmonary, intestinal, gastric, or cystic troubles, are frequently peripheral symptoms of a spinal caries.

The posterior angular curvature is the most conspicuous, and often, especially in hospital practice, the first symptom which directs attention to the real seat of the disease; it results from the breaking down of the vertebral bodies, the giving way of the anterior support of the column, and the projection backward of the spinous processes. As pointed out in speaking of the pathology of this affection, when but one or few bodies are involved, it is sharp and angular; when many, a long and gradual curve, the latter cases being usually of the *caries sicca* variety; when *angular* and *median* it is a positive sign of caries. From the anatomical construction of the vertebræ the deformity will reach its great degree of development, and be most conspicuous, in the dorsal region.

* Reeves, Bodily Deformities and their Treatment, Philadelphia, 1885, p. 136.

Angular curvature may be,and frequently is, absent in the cervical and lumbar regions. Slight lateral deviation is present in certain cases, especially the dorsal or dorso-lumbar regions, dependent upon undue muscular contraction or unilateral destruction of the vertebræ. The development of the deformity is usually gradual, but cases of rapid or even sudden appearance have been recorded and indicate an active and progressing disease, or some sudden and unwonted action. With the occurrence of the angular projection in the dorsal region, the configuration of the anterior portion of the chest is likewise altered, amounting to a lateral flattening and "pigeon breast."

The disease may run its entire course without suppuration, but in the majority of cases abscesses form a constant and important complication. In the former,caries sicca is the pathological lesion, and a "residual abscess" results, as pointed out by Paget.* In general features, the suppurations that accompany are identical with the cold abscesses that result from caries elsewhere, and with the formation the usual apyretic course may be interrupted by an elevation of temperature, even reaching 105 degrees, as recorded by Schaffer. As a rule, however, there is but little constitutional disturbance—a slight rise of evening temperature, slight rigors, and perspiration. Locally, however, abscesses may occasion much disturbance from pressure and distension of surrounding parts, or may assume great size and remain stationary for long periods, especially in children, without occasioning inconvenience; these collections of pus follow the fascias in the direction of least resistance, and usually open at some distance from the seat of origin; both the direction and termination will be determined by the region of the spine affected. The anatomical importance of the fascias in protecting important parts and organs is evident.

Abscesses in the cervical region, when they open externally, pass between the longus colli and scaleni muscles to appear posterior to the sterno-cleido mastoid; they may, however, open into the posterior wall of the pharynx, or may burrow beneath the deep fascia into the thorax and form a mediastinal abscess, discharging finally into the trachea, œsophagus, or through an intercostal space.

In the dorsal region they burrow posteriorly to open on the back or side a short distance from the spine, or gravitate beneath the ligamentum arcuatum internum within the sheath of the psoas magnus muscle, and beneath Poupart's ligament to appear externally in Scarpa's triangle.

In the lumbar region, owing to the peculiar anatomical conditions, purulent collections vary much in their course and exit. They may pursue the course and terminate similar to the psoas abscess; may burrow between the fascias of the quadratus lumborum and abdominal muscles and open posteriorly at the outer border of the erector spinæ muscle, constituting "lumbar abscess;" or may gravitate beneath the internal iliac muscles over the posterior brim of the pelvis, perforating the great sacro-sciatic foramen as a "gluteal abscess."

These represent the usual classical courses, but cases are recorded in which the pus has travelled great distances, and discharged into the viscera, or external parts remote from the seat of origin.*

The paraplegia of the lower extremities which so frequently accompanies and complicates, especially in the cervico-dorsal region, must be distinguished from that which results from compression of the spinal cord in cases of extreme distortion; it involves generally only the motor area of the cord, and occurs in the acute stage of caries from reflex paralysis due to some obstruction to the blood supply, or to communication of the inflammatory action by contiguity from the seat of the disease to the perimeningeal areolar tissue and membranes of the spinal cord—a pachymeningitis, or meningo-myelitis. The symptoms are those of a compression myelitis—gradual loss of power, with increased reflexes, exagerated patellar reflex and increased ankle clonus in the early stage, followed by complete loss of power, contracture of muscles, atrophy of paraplegic parts, and loss of sensation in the later stages. The general health is but little affected, and the bladder and rectum are not disturbed. The average duration, before the appearance of paralysis, is about three years, although it has appeared as early as four and a half months, and as late as eleven years. It occurs in any number of consecutive cases in about the same proportion (being somewhat modified by early treatment), but much more frequently complicates the disease in the upper than in the lower part of the canal, for obvious anatomical reasons. Thus, in the analysis of 295 patients suffering from Pott's disease, Gibney‡ found that paralysis occurred in 62 in the course of the affection, 59 of these complicating 189 cases of disease in the upper dorsal and cervical regions, and only 3 complicating 106 cases of the affection in the lower portion of the canal.

Diagnosis.—The importance of an early diagnosis cannot be overestimated; to this end the examination, both oral and physical, should be most thorough and pains-

*Clin. Lect. and Essays, London, 1887.

* *Vide* Treves, Internat. Encyclo. Surgery, vol. iv, p. 931.

† *Vide* Shaw, Holmes' Syst. Surgery, Amer. ed., vol. iii, p. 312.

‡ Journal of Nervous and Mental Diseases, April, 1878, p. 254.

taking. The entire back should be exposed in good light, and the flexibility of the spinal column tested, either standing by the method of Adams, or prone upon a hard couch. In obscure cases this examination should include the inspection of the pharynx, accurate measurements and electrical and other reactions of the extremities, examination of the major articulations, and the temperature. Finally, it should consist especially of a differential study (1) of the spinal deformity, (2) of the cord and nervous symptoms, and (3) of the abscess, or of all three conditions if present.

The kyphosis is characterized by its angularity, median position, and rigidity; so marked are these peculiarities that confusion with lateral curvature is not likely to ensue, except in those cases of Pott's disease in which there is marked lateral deviation. These, as pointed out before, are chiefly muscular, and are accompanied by an exacerbation of all the symptoms, which, with the rigidity of the spine, would serve to distinguish. Aneurysms of the thoracic and abdominal aorta eroding the vertebral bodies, give rise to symptoms characteristic of caries, as in the cases recorded by Quincke* and Roberts:† but in addition, the symptoms of aneurysm would be associated, and the extensive curve, localized pain, and late period of life at which they occur, would render the diagnosis patent. The same considerations would eliminate carcinoma, sarcoma, and other malignant growths. From functional spinal debility, rachitic curve, etc., with which it is sometimes confused, a differential diagnosis is readily made, and need not be dwelt upon.

The cord and nerve symptoms will, in the majority of instances, be found associated with marked kyphosis, or at least rigidity of the spine. In those rare cases in which paraplegia occurs without angular deformity, the latter symptom, and possibly a purulent collection, will assist the diagnosis. It is, however, in those neuromimeses, or so-called "hysteria of the spine," in which the greatest difficulty is encountered, and especially when associated with "hysterical paraplegia;" here the hysterical simulation closely resembles the genuine disease, but the pain is localized posteriorily and apparently acute; there is no reflex spasm; the muscular rigidity yields under gentle, firm pressure; and the paraplegia is usually sudden. From muscular rheumatism, lumbago, etc., it is distinguished by a history of associated rheumatic affections, the diffuseness and extent of the pain, and the later period of life at which the rheumatic affections occur.

Caries of the last lumbar vertebra is often mistaken for osteitis of the hip, and *vice versa*.* The differential diagnosis is at times exceedingly difficult to make, and for details the reader is referred to special surgical treatises. Infantile paralysis may be distinguished from the paraplegia of Pott's disease by the history, absence of rigidity or pain in the vertebral region, and the muscular weakness and atrophy.

The abscess accompanying Pott's disease must be diagnosed from purulent collections from other causes, and neoplasms in general. In the surgical region it is liable to be mistaken for simple abscess and adenitis. The former are usually acute, attended with fever, and superficial in character. In the latter the inflammation is circumscribed, deep-seated, and unattended with the characteristic spastic sensation.

In the dorsal region, chronic pleurisy with effusion or empyæma, other inflammatory pulmonary affections, and malignant growths, are to be distinguished by the physical signs. In the lumbar region abscess must be distinguished from simple chronic abscess, abscess of lumbar glands, abscess from caries of ilium, perinephritic and pericœcal abscesses. The condition of the psoas muscles will best indicate the presence or absence of pus within its sheath. In simple chronic abscess the symptoms of systemic disturbance are marked rigor, hectic fever, night sweating, while those of vertebral caries are negative. Perinephritic and pericœcal abscesses are distinguished by the marked local symptoms, some disturbance of the organ about which the pus has collected, the condition of the psoas muscles, and the absence of all the characteristic manifestations of Pott's disease.

The psoas abscess pointing below Poupart's ligament to the outer side of the femoral vessels, may be mistaken for the abscess of hip disease; femoral hernia; cancerous tumor;† bubo; fatty, cystic, and other fluctuating tumors; varicose saphenous vein; aneurysm; hydrocele of the inguinal canal; undescended testicle, etc.; for the differential diagnosis of which the reader is referred to works upon general surgery.

Progress and Prognosis.—Contrary to the generally accepted idea, many patients recover from this affection, there being a natual tendency thereto, and the cures achieved in modern times may justly be attributed to early diagnosis, better knowledge of the ætiology, progress of the disease, and the skillful adaptation of mechanical measures. The progress depends much upon the portion of the spine affected, and will be influenced by the amount of personal attention and care given.

* Dis. of Arteries; Ziemssen's Cyclop. of Med., vol. vi, p. 434.

† Pott's Disease; Cyclop. of the Dis. of Children, vol. iii, p. 1032.

* Vide Gibney, Diseases of the Hip, 1884, p. 301.

† Shaw, Holmes' System of Surgery, Am. Ed. Vol. III, 313.

Agnew,* though always considering caries of the spine a serious affection, does not, however, deem life seriously imperilled thereby. "Few children" says he, "who receive proper care, perish from angular curvature; of the cases I have been able to follow I recall only two who have died from causes directly traceable to the spinal affection."

The deformity may be diminished in some cases by appropriate treatment, but once present it never entirely disappears. Nothing renders the prognosis more unfavorable than occurrence of abscesses, especially when they exist for a long time and discharge at a point remote from the seat of disease. A fortunate result is most usual, however, when the abscess opens close to the affected vertebræ, and it has appeared to the writer that such cases do even better than where no abscess occurs. A cure may still follow after the abscess has opened and discharged for a considerable period, but abscesses which discharge for a long time are a drain on the vitality and a direct menace to life owing to the ultimate amyloid and other degenerations of the internal viscera.

A "residual abscess" may become active at any, even a remote, time from the beginning or apparent cure of the vertebral lesion.

The paraplegia of Pott's disease, while a distressing and alarming complication, one which materially lessens the prospects of cure, tends, as a rule, to spontaneous recovery, the average duration being a little less than one year. This is well shown in the analysis of fifty-eight cases by Gibney,† twenty-nine of which recovered save one, "still under treatment;" again, Taylor and Lovett‡ report nineteen cases, of which seventeen recovered, one recovered partially, and one remained paralyed; and Sayre‡ has reported thirty-eight cases either partially or completely paralyzed, of which thirty-four recovered, and four remained under treatment. Relapses occur, but do not materially affect the prognosis. Exceptions to this favorable tendency are found in the paralysis in connection with caries which is peculiarly apt to end in death, and where sensation and motion are both involved; the restoration of the power of the limbs is only partial, or incurable paralysis persists. Even these cases are not hopeless, for cases of recovery after complete loss of sensation have been recorded elsewhere by the writer.§

A fatal issue may ensue from simple asthenia, the result of excessive suppuration, hectic pyæmia, amyloid degeneration of the internal viscera, intercurrent affections—tubercular or otherwise—rupture of an abscess internally, or from hæmorrhage from perforation of a large blood vessel.* An interesting case of the latter is recorded by Ashhurst,† where a psoas abscess caused ulceration and consequent rupture of a branch of the internal iliac artery, leading to rapid death. It may be safely said that more children perish from abscesses which open internally than from all other causes combined. The prognosis is more favorable in children than in adult cases. Speaking in round numbers, three years may be said to be an average time for a course of treatment, and from three to ten years the patient should remain under observation.

Treatment.—Equipped with modern improved mechanical means, one approaches the subject of treatment of spondylitis with greater confidence than earlier writers could possibly have done. In addition, practical surgeons appreciate the important rôle which improved hygiene, in its widest adaptation, plays. In considering this section of the subject, the general medical treatment will be considered, and only such mechanical measures which have been found in the hands of the writer capable of meeting the requirements in the majority of cases. Nature is engaged in a local germicidal warfare, and well directed assistance may enable her to conquer.

Hygiene, generous and improved diet, sufficient sleep, proper clothing, salt baths, massage, etc., are important adjuvants, but *sunlight* and *fresh air* are the two most important agents required. In addition, measures should be taken to improve the general health by the use of tonics and alteratives; the selection of the particular drugs will depend on the individual case and the judgment of the practitioner.

Recumbency as a means of treatment, still has its advocates. Prolonged recumbency with withdrawal from sunlight and fresh air has a deleterious effect upon the health, and it has been suggested in a recent authoritative work that it also predisposes to tubercular meningitis.‡ Recumbency should be enjoined during the acute stage, and its evil effects may be obviated by the use of the "*stehbett*" of Phelphs, or what the writer most prefers, a light iron frame covered with canvas, to which the patient can be accurately fixed with straps and buckles, and which permits of the patient being lifted and carried readily about; such an oblong bed can be cheaply constructed

* Prin. and Prac. of Surgery, 1881, Vol. II. p. 876.

† Journal of Nervous and Mental Diseases, April, 1878, p. 234.

‡ Medical and Surgical Reporter, Vol. IX. 136-139, 1888.

‖ Trans. Amer. Med. Asso., Phila., 1879, Vol. XXX, p. 657-790.

§ University Med. Mag., Vol. I, p. 348.

* Legouest, Gazette Hebdom., 1861, p. 76. Fuller, *ibid*, 1859, p. 524.

† Prin. and Prac. of Surg., 2d ed., 1878, p. 644.

‡ Schreiber, Allg. on Spec. Orthop. Chir., 1888, p. 93. Bradford and Lovett.

§ Treatise on Orthop. Surg., New York, 1890, p. 58.

of light gas pipe or stout steel bars. An apparatus of this character permits also of extension, counter-extension, and fixation, a method of treatment of great advantage in cervical disease. Suspension as a mode of treatment is an old plan which has recently been brought into prominence; but was employed as early as 1826 by Prof. J. K. Mitchell;* independent of support, as a remedial agent it has no special value.

Complete suspension can only be employed temporarily in securing a better position of the trunk for the application of plaster-of-Paris or other fixative apparatus, and great care should always be exercised therein. It is now recognized that the deformity itself cannot be changed—the vertebral column above and below the gibbosity may be extended and straightened, but the diseased area remains fixed.† In fact, attempts to accomplish this have been followed by immediate paraplegia and even death.‡

The machines and appliances employed are innumerable, but can all be classed in two groups: (1) The fixed jacket of plaster-of-Paris, and its modification in silicate of soda.§ poroplastic felt ‖ leather,¶ woven wire,** paper,†† bamboo ‡‡ etc.: (2) The spine brace. The plaster-of-Paris jacket filled a long felt want, and its various modifications have extended the range of its usefulness. The *technique* of its application is so well known that it need not be dwelt upon here. While possessing certain advantages of economy, requiring less special experience in its application, and being entirely beyond the control of the patient or attendants, there are certain positive disadvantages,—the encircling of the body with a solid support; the inability to inspect the condition of the skin and note the progress of the affection; the formation of excoriations, ulcerations and abscesses without the knowledge of the surgeon, the lack of cleanliness, etc.,—which relegate it and its modifications to a secondary position. When split, furnished with lacings, and applied and removed at will it loses part of its efficiency, but there is a gain in comfort and cleanliness. It is of decided value, however, for patients who are unable to bear the expense of even the cheapest apparatus; in such cases, with attention to detail, a cure may often be effected, and the writer has in public practice frequently proven this statement. In all cases of disease above the seventh dorsal vertebra, a chin rest should be added to remove the superincumbent weight, and more particularly to extend and fix the diseased area. In justice to this mode of treatment, it must be added that there are certain cases in which it is the best and most efficient; this applies particularly to the lateral deviation of the spinal column present in certain cases of Pott's disease, and in lower lumbar disease. It is, moreover, important that the surgeon be familiar with both the plaster-of-Paris jacket and the spine brace, adapting each to the special requirements of the individual case.

The spine brace should act on the principle of a lever, the fulcrum being the diseased part of the spinal column, the weight at the waistband, and the power applied above to pull the part above the kyphosis back as far as possible. The writer has personally had the best results with the antero-posterior support as modified by Dr. G. Fayette Taylor, of New York, an apparatus constructed upon this principle. It consists of a pelvic band, upon which are attached two uprights of the best annealed steel admitting of easy manipulation and bending, connected with two transverse bars from which arise two shoulder-pieces. These uprights are separated sufficiently to rest, when applied, upon the transverse processes throughout the greater part of the spinal column, and at the seat of deformity; extending some distance above and below are the pad plates—the latter are pieces of softer steel fastened to the uprights by hinges and screws, admitting of ready removal and bending, and best covered with hard rubber or ground cork enclosed in Canton flannel. The shoulder pieces are provided with covered webbing straps, and the transverse bars and pelvic band with buckles. The apparatus is securely held in position by an apron of stout muslin, and webbing straps. The patient is placed prone upon a hard couch, and the measurements are taken with a lead strip, carefully moulded to the inequalities of the transverse processes, from the anal fissure below to the upper border of the scapula above. This outline, carefully traced upon stiff cardboard, is cut out, and serves both as a ground for the manufacture of the instrument, and a record for subsequent reference. The pelvic band is measured from one trochanter to the other. The upper part of the uprights are bent backward so as not to rest upon the surface when applied in the recumbent position, but make gentle traction backward. The brace should always be applied in the recumbent posture, the pelvic band be secured first, the axillary straps next, to the lower transverse bar, and, thirdly, the upper apron-strap to the buckles of the upper transverse bar. The middle straps of the apron are then secured over the uprights

* Amer. Jour. Med. Sciences, 1826.

† Vide Anders, Archiv. f. Klin. Chirurg. 1889, Bd. 3d, p. 558.

‡ Mr. Willett, St. Barth. Hosp. Rep.; Thomas Buzzard.

§ Coover, Med. and Surg. Rep., April 13th, 1878.

‖ Cocking, Med. Press and Circ., 1879, m. s. XXVIII; Walsham, Lancet, 1885, Vol. I, p. 619.

¶ Agnew's Surgery, Vol. II, p. 880.

** Roberts, Int. Jour. of Surg., Vol. I. No. IV, p. 207.

†† Med. Record, N. Y., 1887, XXXII, 647. New York Med. Jour., 1886, XLIV, 261.

‡‡ Slimshi, Tokio, 1884, No. 305, Feb. 2d.

by means of safety-pins. Great care must be observed to so regulate the pressure on either side of the deformity as to secure fixation of the inflamed area without undue pressure. Dr. Judson has formulated the following rule:

The apparatus may be considered as having reached the limit of its efficiency if it makes the greatest possible pressure on the projection compatible with the comfort and integrity of the skin.

The apparatus must be worn day and night unless some special complication calls for its removal, and under no circumstances should the patient assume the upright position without the support. In all cases where the disease is above the seventh cervical vertebra, the apparatus must be supplemented by a chin rest to fix the diseased area and support the superincumbent weight; this consists of an ovoid steel ring—made to open on the side, and secured when closed, arranged so that it can support the skin in a hard rubber cup, and exert pressure upon the occiput—and attached to the steel upright by means of a ball and socket joint which allows of motion in all directions, or can be fixed at any point. The head is secured by a webbing strap passing about the forehead from the extremities of the posterior uprights. In those cases before spoken of where lateral curve complicates the disease, it will be necessary to bend the brace up on one side and down on the other, and by enforced recumbency await the subsidence of the muscular spasm,—or removing the apparatus apply a well fitting plaster jacket with suspension, and subsequently resume the use of the spine brace. The two most frequent complications, abscess and paraplegia, require special treatment. Iliac, lumbar and psoas abscesses are formidable complications. It has been the habit of surgeons to treat these expectantly, to allow them to open spontaneously, to aspirate, or incise, and then to close. These plans are sanctioned by authority, and supported by excellent results, but there has been of late a growing tendency to do something in an operative way. Evacuation and hyperdistention of of the cavity* with various antiseptic fluids has been practiced by Wood, Israel, Agnew, Treves, Dollinger, and others, but the operation did not fulfilled all that was anticipated, and Demours, Demoulin,† Bradford and Lovett, have each recorded a death from it.

Under strict antiseptic precautions the dangers of septicæmia are greatly lessened, and in suitable cases—where the pressure effects and distention of the abscess demand urgent interference — free incision, openings, and counter-openings, with insertion of drainage tubes, should be advocated; particularly is this best where from the location and size it appears possible to remove by curetting the entire pyogenic membrane. In other cases the writer strongly favors the expectant treatment, and complete antiseptic dressings after the spontaneous evacuation of the abscess.

In retropharyngeal abscess and deep cervical abscesses burrowing toward the chest, prompt surgical measures must be adopted. The former can be relieved by a guarded bistoury, or in some cases by the administration of an emetic; the incision should be made in the median line of the posterior wall of the pharynx, and the head quickly thrown forward to avoid suffocation. In deep cervical abscesses which are approaching the thorax along the deep cervical fascia, the plan of Mr. Hilton is best adopted. An incision should be made through the sterno-mastoid, an exploratory incision carried through the deep fascia, and if pus be found the incision further extended. The management of paraplegia consists of the accurate application of a spinal support, the enforcement of recumbency, and in some cases the use of large doses of iodide of potassium, as suggested by Gibney;* but the experience of the writer corresponds to that of Ridlon† who declares he had been convinced that it produces no effect unless there is reason to believe hereditary syphilis is present. The paralysis being spastic in its nature would strongly contraindicate electricity.

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* Method of Mr. Collender.
† Progrès Med. 1886. 20. iv, pp. 1029, 1031.
‡ Bost. Med. Jour. 1880, vol. vii, p. 578.

TYPHUS FEVER (TYPHUS EXANTHEMATICUS.)

BY PROFESSOR KARL LIEBERMEISTER.

Typhus exanthematicus, or "petechial" typhus, is a general contagious affection, presenting many similarities to the acute exanthemata, and characterized by fever with typical march, a cutaneous eruption, and catarrh of the respiratory tract.

William Jenner in 1850, and Griesinger in 1857, were among the first to make known the specific difference between abdominal typhus and typhus exanthematicus. In reality, the similarity is quite superficial. Both are infectious, characterized by intense fever of long duration, and both give rise, perhaps more frequently than other febrile diseases, to the "typhus state," whence their name. In other respects, the two diseases have no kindred or common features. Typhus abdominalis belongs to the group of *miasmatico-contagious* affections; exanthematous typhus to that of

* Med. Record, N. Y., 1885, XXVIII, 452.
† Med. Record, N. Y., 1887, March 26.

the true *contagious* diseases. The latter, in accordance with its ætiology and characters, should be classed along with the eruptive fevers, and presents considerable similarity to measles.

Exanthematous typhus was probably one of the scourges of antiquity, and without doubt played a prominent part in the grave epidemics of the Middle Ages; but the first exact description (by Fracastor) goes back only to the epidemic that raged in Italy at the commencement of the 16th century. From this epoch onward, the disease became in Germany and in the west of Europe one of the most frequent of epidemics; one that, with abdominal typhus and dysentery, has often scourged armies and followed famines.

Exanthematous typhus is transmitted directly from individual to individual, hence is essentially contagious, as is proven by the number of victims made among physicians and nurses. In countries where it is endemic, as in certain regions of Ireland, it is rare that those who attend on the sick do not contract the disease, at least once in their lifetime, and in the Crimean war, more than 80 French military physicians died of typhus. Immediate contact with the patient is not, however, a necessary condition. The infectious principle is a volatile contagion, has a great resistance, seems able under certain circumstances to preserve its activity for months, and may be transmitted by the air as well as by clothing, and even by a third person.

The development and extension of an epidemic are favored by the crowding together of a number of individuals in badly ventilated habitations, hence it prevails especially in quarters where the population is most dense, attacking chiefly the poorer classes. In jails, workshops, and crowded ships, the germ of the disease finds a soil congenial for its rapid development; and during the last centuries, every war had for its invariable accompaniment a typhus epidemic.

It often follows bad harvests, and other causes of famine and social misery, which are independent of climate, of the nature of the soil, of seasons, and of meteorological conditions, and more apt to prevail in cold weather, when people are more confined within doors, breathing confined air.

There is a widely prevalent opinion that typhus may break out spontaneously under the influence of bad hygienic conditions, such as the massing together of emigrants in the unventilated holds of ships, but such is entirely contrary to facts. All analogy points to the existence of a definite micro-organism as the causal agent, although the germ has not yet been discovered.

Typhus preferably attacks persons in full maturity and vigor, though no age is exempt. Privation in all its forms augments the receptivity, and a first attack confers an immunity, which is not as complete or as certain as in other acute exanthemata. The incubation period is generally from one to two weeks.

Preceeded by slight *malaise*, restlessness, inability to work, loss of appetite, headache, sometimes by sensations of a cold in the head, the malady begins to assert itself by a high fever. This is the predominant symptom, presented as a continued pyrexia in which the temperature rapidly attains a high point, and remains there (on an average) about a fortnight, and then falls no less rapidly. As in the other acute exanthemata, we may distinguish three periods:

1. *Period of invasion*, characterized by the sudden appearance of a high fever, ushered in by a severe chill in which the temperature mounts up to 104° F. the very first evening, and, while presenting the ordinary morning remissions, continues to rise till the third or fourth day so as to attain a maximum of 105° or 106° F. The fever is accompanied by the usual symptoms; frequent pulse, redness, of the face, sensations of burning heat, muscular weakness, pains in the joints, etc. Soon the patient has a feeling of weight in one side of the head, inability to fix attention, slight troubles of speech, hardness of hearing, tinnitus aurium, insomnia, often also a slight delirium. The stools are normal though sometimes there is constipation. There is also at the outset frequent vomiting and very often a congested state of the nasal mucous membranes. The symptoms of bronchial catarrh begin to show themselves at the end of this period, and some swelling of the spleen is noticed at the same time.

2. *Period of Eruption.*—On the fourth or fifth day numerous roseola are seen on the limbs and face, sometimes projecting slightly above the skin, so as to form papules. The eruption spreads gradually, continues to develop from three to six days, becomes more or less confluent according to circumstances; and the number of spots is generally many thousand—"*spotted fever.*" When this eruption has attained its height, about the end of the first week, the fever sometimes abates, but this remission is little marked and but temporary; ordinarily the pyrexia persists with the same intensity and may even augment. The evening temperature reaches 105° or 106° F. The violence of the symptoms increases in proportion, and during the course of the second week, the patient presents a very characteristic typhoid state with continuous delirium,—sometimes furious, sometimes tranquil,—somnolence and stupor. The tongue is dry, cracked and covered, as well as the gums and lips, with a thick sooty coat; the pulse frequent,—120 and above,—small, and sometimes

dicrotic; respiration at the onset is normal and easy, but when, by reason of the enfeeblement of the myocardium there are hypostatic congestions, these provoke a dyspnœa in relation with their extent; there is a cough, and auscultation reveals all the signs of a dry catarrh; the spleen is in general notably enlarged; sometimes there are little hæmorrhages and petechiæ in the region of the spots, and the beginnings of bed-sores on the sacrum.

3. *Period of Delitescence.*—About the end of the second week, and at the beginning of the third, the fever begins to fall. Defervescence, if there are no complications that keep up the fever, is ordinarily rapid, and the temperature returns to the normal in the space of 36 hours; this coincides with the appearance of abundant sweats. This is followed by the almost immediate amelioration of all symptoms, and the patient, who a short time before was sunk in profound stupor, and seemed doomed to death, revives and enjoys a tranquil sleep, from which he awakes greatly restored. The eruption fades away; there is an abundant expectoration which announces the resolution of the catarrh; the cerebral symptoms disappear; but there remains quite often an enfeeblement of the mental faculties, and there is sometimes a tendency to delirium. The patient naturally remains feeble for several days, nevertheless convalescence is more rapid than in grave typhoid fever.

The differences which the disease presents in its march and evolution, depend in great part on the intensity and duration of the accidents. There are light cases in which the temperature remains moderate, and abortive cases in which defervescence comes on in the course of the second week, and even at the end of the first. In these all the symptoms are mild; the eruption is, perhaps, wanting, or consists only of a few discrete petechial spots. The most benign form, know as *exanthematous typhus fibricula*, may run its course in a few days. From a symptomatological point of view, it resembles the grave form but little, but ætiologically, there are decided reasons for attaching it to true typhus, in that we observe all the transition forms.

In the very malignant forms, the fever is intense and has very long duration, sometimes lasting beyond the third week. When death is the termination, it supervenes, in general, about the end of the second or third week, almost always without any complication, and as a direct consequence of the excessive and prolonged hyperthermia; its proximate cause is ordinarily paralysis of the heart or cerebrum. Exceptionally, the fatal termination may be earlier; there may be certain forms particularly malignant,—as of "camp typhus"—where it comes as early as the second or third day.

At the autopsy there is found, besides tumefaction of the spleen and signs of an acute bronchial catarrh, a more or less advanced degeneration of several organs, especially apparent in the heart, whose muscle takes on a soft, friable consistence, and a characteristic coloration. The voluntary muscles, as in typhoid fever, present the granular and waxy degeneration.

The complications and secondary affections are the same as in typhoid, but less frequent and varied, probably because the fever has not so long a duration, and falls more rapidly. We may range in this category, the furuncles, the suppuration of lymphatic glands and cellular tissue, the thromboses often witnessed; in certain rare cases pneumonia, endocarditis, inflammation of the serous membranes, etc. In the malignant forms we observe, in the mucous membranes, as in all the grave infections, those microbiotic processes which are habitually designated under the name of *diphtheritic* or *croupous* processes. Bed-sores, also, often form over the lower vertebræ or sacrum, and sometimes there is gangrene of the lung and suppurative parotitis. In certain epidemics, icterus, accompanied with a little tumefaction of the liver, is quite frequent.

Herpes labialis is less rare than in typhoid, and seen only toward the close of the disease, in the benign form. During the fever, there is often albuminuria, but grave affections of the kidney are rare. Among the secondary affections noted in some instances, are anæmia, marasmus, dropsies, and psychical and other disorders of the nervous system.

Diagnosis.—Many symptoms are common to both typhus and typhoid fever. As there exists in both a pyrexy of long duration and great intensity, the hyperthermia must act in pretty much the same way on the nervous centres, and determine similar symptoms. In exanthematous typhus, the typhoid state is more marked and more rapidly ensues; the delirium takes on oftener the furious character; the pulse is habitually more frequent, but these characters vary with different cases, and hence possess no great value. Of much greater importance are the signs derived from the course of the temperature, which rises rapidly, remains at a high degree for a long time, then falls suddenly. In typhoid fever, the ascent, as well as the descent, is slow, and the level formed by the acme of the curve is more pronounced than in abdominal typhus. In true typhus, the eruption is in general very abundant; in typhoid fever, very discrete. It will not do, however, to forget that sometimes in the latter the spots are numerous and disseminated over the whole body. In typhus, apart from complications, the abdominal symptoms of typhoid fever are lacking.

In making the differential diagnosis, it is necessary to take account of the character of

the epidemic:—Has the patient been exposed to the peculiar typhus contagion; or have there been cases of abdominal typhus in the vicinity? The same considerations may lead one to exclude the idea that, by reason of the rubeolic rash and the catarrh of the air passages, the case is one of measles; the progress of the fever, moreover, will help clear up this difficulty.

Prognosis.—In exanthematous typhus it is the hyperthermia, with its consequences, that constitutes the principle danger. Prognosis, then, will be based largely on the intensity of the fever. Another important element is the pulse, which often from the first is small and weak. The disease is generally much milder in children than in adults, and the strong and robust naturally resist better than the feeble. The mortality varies with epidemics, being in some below 10 per cent., in others above 20 per cent.; —average, about 15 per cent.

Treatment.—Preventive measures may to a great extent diminish the chances of importation, or extension of the disease by contagion. The most stringent isolatation of patients should be effected, their clothing and other effects disinfected by heat, and the sick room or ward thoroughly aërated.

The treatment in the main is symptomatic and expectant. The fever deserves the principal attention, and the abstraction of heat by cold baths and cold ablutions gives greater success than any other mode. Antipyretics, etc., used with discretion, may have a limited range of usefulness. Local application of ice in some cases may preserve the heart and brain from the effects of hyperthermia. When there are threatening signs of cardiac enfeeblement the indication to support the strength and prolong life by means of wine or brandy is sufficiently obvious. Ether, camphor, and musk may also fulfill certain indications. Other complications do not demand any special mention.

TUBINGEN, GERMANY.

SUCCESSFUL REMOVAL OF HYDATID TUMOR OF THE BRAIN.

Dr. Graham and Mr. Grubbe record, in the London Lancet, a case recently under their care. The patient was a lad sixteen years of age, who suffered from severe headache, nausea, vertigo, double optic neuritis with atrophy, loss of memory, mental dullness, and paresis of the right arm and leg. A tumor involving the left motor area was diagnosed, and Mr. Grubbe trephined over it. He found the bone very thin, not more than ⅛ inch thick, and on opening the thickened dura a single simple hydatid cyst was seen, and easily extracted. The pia mater was intact. The cyst measured 4 inches in diameter, and held 19 ounces of fluid. The patient recovered. After six weeks he was able to get up and walk, his memory returned, and in all respects he was well except for his blindness.

Recent reports of brain surgery indicate progress, and we may soon see the brain operated upon with as much safety as intestinal surgery is now accomplished.

Correspondence.

BERLIN CORRESPONDENCE.

Photography in Medicine—A Rare Case—A Miraculous Water—Hippocrates and Virchow—Lustgarten's Removal to New York—Schweninger's Decline—Death of Two Medical Crœsuses—Printed Pills—The Man Without a Penis.

BERLIN, Oct. 3rd, 1890.

The steady increase of the collateral branches, and the ever expanding utilization of physical forces, is gradually changing the character of medicine from a speculative to an exact and applied science. Photography, the latest handmaid of medicine, appears destined to play a vital rôle in diagnosis, particularly in the zymotic diseases. Both in the Charité and the Clinicum it has been customary for some time to photograph patients with the view of thus securing typical aspects of affections, which might act as guides in future diagnosis. A few weeks ago a lady was admitted to the Charité for some uterine trouble and, as usual, was photographed. Imagine the surprise of the medical photographer when the portrait showed globular red spots disseminated all over the face. A picture taken on the following day presented a well defined eruption that after a week's time, became a clear case of small-pox. It is superfluous to dwell on the importance of the matter, and the only question presenting in this connection is whether it should not be obligatory, or if it is not at least desirable, to photograph every hospital patient at the time of admission. The Military Medical Academy will in future include photography in its curriculum of instruction.

Dr. Schlangeand de Ruyter, the first assistant of Prof. Bergmann, yesterday exhibited a man on whom operations had been performed by the wholesale. The patient in question, Dr. F. Otto, a noted author, not content with wounds, operations, and extraction of bullets obtained during the late wars, contrived two years ago to acquire an intestinal fistula located very high up. The fistula necessitated no less than five serious operations. Recently a singular induration presented itself in the femoral region which, not yielding to other treatment, necessitated a sixth operation. After incision the operators found a long fistulous channel at the end of which a hard fishbone was lodged. The bone had penetrated the intestines two years since and was the cause of all trouble.

The report of the discovery of a "wonderful water" at Hermsdorf, near Berlin, induced me last week to pay a visit to the place, all the more as the vaunted anti-catarrhal virtues of

the spring had a splendid chance to assert themselves on my own respiratory organs. The place, reached by rail in twenty-five minutes, is located amidst highly odoriferous pines and looks as if picked out by Nature especially to serve as a health resort. Mr. Lessing, the proprietor, I learned had originally bored for coal, and accidentally, at a great depth, found a "saline." The water has a greyish-green hue, tastes exceedingly salty, but—and this is peculiar—causes no thirst. Salts of sulphur and carbon form its chief constituents. The water is led to a considerable height whence it is made to run down a well graded plane covered with odoriferous shrubs, and around these latter the people sit in search of health and strength. I found here people with all ills which flesh is heir to, but chiefly with affections of the respiratory and digestive apparatus. The water is inhaled, drank and used as a gargle. I can testify to its miraculous effects in hoarseness. I could scarcely talk above a whisper, and the mucous passages of my head and throat were too swollen to allow me to breathe freely. I gargled with the water for several hours at intervals of fifteen minutes, inhaled it, drank it, and had the gleeful satisfaction of discovering I could take the night train to Berlin perfectly rid of my catarrhal troubles. This surprising result was no accident, for I have often since sent other patients to Hermsdorf, who were likewise speedily relieved. Here is a chance for some enterprising American to make a fortune by obtaining control of the "saline."

Whoever visits Virchow of late is treated to the sight of a photograph of the "Hippocrates Tree," *i. e.*, the tree under which Hippocrates delivered the first lecture on medicine. The growth stands in the market place of the Island of Ros, and as Hippocrates lived in 460-377 B.C., is 2,350 years old. Allow me to add here that the Father of Medicine died at Larissa, honored like a God, but poor as a church-mouse, for nearly all of his doctor bills remained unpaid.

Have you heard that Prof. Lustgarten, the discoverer of the supposed bacillus of syphilis, has taken up his permanent quarters in New York? Possibly not, however, the reason why this noted bacteriologist abandoned the lovely city on the Blue Danube, a well salaried position in the University, and a big dermatological practice. The simple fact is, he had the courage to tell the truth about the Vienna Allgemeine Krankenhaus, where he served as assistant to Prof. Kaposi. One day he told the latter what all the town well knew: "*Das Wiener Allgemeine Krankenhaus ist dar groesste hurenhaus der Welt.*"

Kaposi was furious and immediately ordered Lustgarten's discharge, who preferred emigrating to a country where one is allowed to tell the truth. The immoral practices at the Hospital to be sure will now go on as ever, quietly but incessantly, while an inquiry and even a scandal would have been beneficial.

Ever since the gigantic orb of Prince Bismark disappeared from the political firmament, the faint light of his satellite, Professor Schweninger has set too. The anti-fat business has been very lean for some time, so the Professor took to speculation. He succeeded in establishing a company which, under the name of Schweninger's Sanatorium, was to divest obese humanity of its superfluous carbohydrates by the wholesale. Schweninger obtained an annual fixed salary of 15,000 marks and 6 per cent. on the value of the wine drank by the patients. The company has now discharged the Professor, in the first place for ordering too much wine, and second, for no longer being a sufficient attraction to guests. "*Sic transit gloria mundi.*"

The latest in the line of pharmacal innovations are "printed pills," *i. e.*, medicated globes with instructions printed on them. These instructions include name, derivation, active principles, dose, antidote and similar statements. The chief advantage claimed is, the prevention of accidents by mistaking poisonous pills and granules for harmless ones.

Two men died last week who both became exceedingly wealthy by selling a single medical specialty, viz.: M. Nestle, the manufacturer of Baby Food, and; Dr. Oidtmann, vendor of "Oidtmann's Purgative." Nestle was a German, but being a democrat had to leave the country in 1848, when he settled in Switzerland, where he lived in very straitened circumstances, until he hit upon "Nestle's Food." Shortly before his death he sold the entire plant to an American syndicate for one million dollars. Dr. Oidtmann was a poor, obscure Dutchman, made rich by the German Government. He had manufactured a worthless purgative, which in spite of extensive advertising in German papers had no sale whatever. One day the Government took it into its head to interdict the sale of the nostrum, and from that time out it became the rage, and the sales steadily increased until it became a household remedy in every German family; this made a Crœsus of the manufacturer.

A most singular defect, viz., lack of penis, was recently discovered in an adult by Dr. Rauber, of Nordhausen. The patient, a shoemaker aged 38, had sought the doctor's advice for a burning sensation in the intestines, and diarrhœa. Scrotum and testicles were found to be normal but the penis was congenitally absent. The urethra ended in the rectum and had caused the mentioned burning sensation. He confessed to feeling at times sexual propensities, and experiencing on these occasions a peculiar tickling sensation on the anterior wall of the bowel, and even a certain "flow." It is clear that the latter manifestation had the character of a pollution. The patient refused an ocular inspection of the intestine.

The household of Mr. Wohl, a rich Berlin merchant, has just been poisoned with hemlock which was cooked in mistake for parsley. Husband, wife, nine children, a governess, and two servants—fifteen persons in all—are affected, and the outcome with all is at present very doubtful.

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Editorial.

ALIMENTATION AS A THERAPEUTIC MEASURE.

The medical man who contents himself with merely prescribing definite forms of medication, and does not at the same time provide for the diet and nourishment of the invalid, neglects to avail himself of a most valuable auxiliary. (Waring.)

Never was a thought more pregnant with truth. Fortunately, however, in these later days the importance of dietetics is becoming more and more recognized, and their study, both in practice and theory as accessories to the exhibition of drugs, has led to better results, not alone in the care of convalescents, but in the very onslaughts and heights of disease.

"Directly man begins to live, he begins to die," says the erudite Thomas Hawkes Tanner. Food is life, and the various and divers ways in which it may be utilized are legion; the very foundation of the *cusine* was a recognition of the principle of economy in nourishment. The physiological relations between the alimentary canal and the organism at large are most intimate, and doubly manifested with the onslaught of disease. Appetite, too, and the sensations of hunger and thirst, far from being mere local manifestations, are the demands made through the central nervous system by the economy as a whole, for a renewal of material of which it has been deprived, or that has disappeared in the form of waste. Thus existence is but a succession of wastes and repairs, so much so that the older physiologists were wont to assert that with each cycle of seven years the physical system is wholly renewed.

Repair must have its source from without, hence the ingestion of food in response to the demand. Then follows digestion, a complex act whereby the aliment is comminuted and transformed into material available for assimilation. Assimilation presents the process whereby the nourishment is taken up by the absorbents and converted into sources of energy, viz., blood, bone, and nervous and muscular tissues. So exact is this adjustment between waste and repair, that a mere trifle, apparently, may disturb the equipoise, constituting morbidity. In other words, if the aliment be deficient in quantity and quality, the processes of digestion are interfered with, and there is waste without corresponding repair, when a pathological condition supervenes known as inanition. The organism as a whole is lowered in tone to enable it to compensate for, and adapt itself to, the circumstances of supply, and thus it easily becomes a prey to other and external morbid influences; or perhaps the latter may be coincident with, and a cause of, the former. Were it not for these waverings of the balance and disturbances of the normal equilibrium, determined by individual acts and surroundings, or latent through heredity, there would be no disease, and the debt man "owes to Nature" could only be paid by acts of violence.

Inanition is itself decay, none the less certain because it is insidious; it is slow starvation, and attended by the same phenomena as accrue to immediate and total withdraw of all nourishment. All parts of the organism, however, are not equally affected. Those which can be utilized as nitrogen and carbon are first consumed in the endeavor of Nature to compensate or restore. The capacity of the economy to sustain itself for considerable periods of time, without the ingestion of nourishment, and in spite of constant excretion with diminution of body weight, is well understood by physiologists. The fact is, the organism in perfect health possesses within itself a fund that is added to day by day, the supply always being a trifle in excess of the demand; and this is a matter of no small consequence in conditions of disease. If each day's nourishment exactly balanced each day's force, existence would be most uneven, and the dangers of disturbance to the vital mechanism greatly enhanced; but by a system of storage, a proportion is saved under favorable circumstances to make good the deficiencies that accrue to possible conditions of abnormality; or, to employ the words of the genial Fothergill, "there exists a species of capital—a physiological fund into which man can pay, or draw from, according to his necessities." By means of this reserve force, it is possible to sustain life even when the system is wholly deprived of food for a little less than a fortnight, while with slight daily accessions of nourishment it may be maintained for a much longer period. In acute disease the reserves enable the system to tide over the periods of excessive or abnormal waste, even though there is left behind an organism enfeebled and reduced in bulk and in weight. Thus it will be seen that it is a matter of vital importance to the physician to be able to estimate fairly the extent and amount of reserves that obtain in each individual case.

As an invariable rule in excess of waste over repair, the reserves first disappear almost completely; the blood next diminishes about three-fourths; the digestive organs and muscular system each more than one-half; while the nervous system is least affected of all.

The most prominent feature of disease then, and one common to all, is rapid diminution of the nitrogenous and carbonaceous elements. There is impoverished blood owing to disturbance in the relation of the conditions of supply and demand, whereby the force and frequency of the heart's action is diminished, that, prolonged, secures fatality through "heart failure." In the meantime the respiratory acts are interfered with, and the exhalations of carbonic acid decreased gradually and progressively, contributing by a corresponding lack of oxygen to the fatal results. Thus the organism quickly loses its power of maintaining uniform temperature, so essential to well being; febrile movement and general excitation are enhanced; finally comes disturbance of the mental faculties amounting, perhaps, to delirium.

Such are phenomena that attend in greater or less degree every malady, since any morbid state must be dependent upon disturbance between the normal relations of waste and repair. To restore this balance, by removing the offending cause, and by aiding Nature in her efforts to restore, is the province of therapeutics; and here many fail, simply because accustomed to regard the relations of therapeusis to disease as matters of purely mathematical import, addition and subtraction, instead, as in reality, of conservation and compensation. In this connection the question of nourishment demands always first consideration; it is paramount to medication.

The chief source of the blood-supply being food, it follows that its careful selection and preparation are among the most pressing necessities of daily life. To expect to maintain healthy blood by scanty or improper nutriment is as futile as to hope that healthy nutrition of tissue can be maintained by an insufficient or morbid circulation. There is, for example, no better physiological axiom than that the production of muscular activity depends upon a free supply of pure arterial blood, this supply being needed to facilitate that incessant transformation which is the necessary condition of molecular action, as well as to replace waste. Of the various alimentary principles, not one, singly, is capable of maintaining the normal condition of the blood, save for a very limited period. The value of every diet table, and of every substance employed as food, then, does not depend upon the amount of any one alimentary principle it may contain, but upon its possession of several blended in proper proportions, and the facilities offered for palatable transformations.

Of the four organic elements composing the body, nitrogen and carbon demand to be supplied most freely, inasmuch as the phenomena of nutrition arise from the chemical interchange of these elements with the co-operating influences of oxygen and hydrogen, and certain salts. The nitrogenous substances are those capable of being converted into the albumen and fibrin of the blood, and subsequently assimilated by the tissues, and are in part heat-giving, though chiefly indispensable for the formation of muscle and nerve material; the fatty aliments also are essential to nutrition, since they are both plastic (nitrogenous) and calorifacient. Thus, to conserve and keep up mechanical force, the latter must be supplied in due proportion just as the albuminates are supplied. The carbo-hydrates, chiefly combustible or heat-giving, are not plastic. In addition, it is essential that certain salts and a proportion of water be provided, which, fortunately, are largely present in those substances usually employed to satisfy the cravings of appetite.

As before intimated, disease at all times is a form of inanition, the demands of waste exceeding those of supply, when the reserve force must be called upon, the limit of which is death. The appetite, therefore, becomes a matter of importance from the very beginning of the malady; it is an index, so to speak, of vitality, since if nourishment can be readily partaken of, there is a partial guarantee of offset to waste, and the outlook is favorable. On the contrary, if anorexia supervenes, the prospect darkens, as it is *prima facie* evidence the digestive functions are deficient and no longer capable of converting available nourishment into force. Again, the organic operation involved in nutrition, and also in the retrograde change of decay, can only go on at normal rates so long as a standard limit of temperature is maintained; the proper progress of the action of life implies a corresponding adjustment of heat irrespective of the bulk of the individual.

Increased temperature tells of disproportionate combustion of carbon, and consequently increased waste. This is the febrile state, whereby Nature endeavors to compensate by distributing the "wear and tear" evenly throughout the economy. To supply the place of the fuel consumed by abnormal combustion, the entire organism is laid under contribution, and there is corresponding lack of secretion, and consequently of function and activity. Thus anorexia is often the first evidence of an insiduous onslaught of phthisis, the digestive organs being depleted to compensate for the waste incident to a diseased lung; the supply of blood that should stimulate the nutritive function and support in normal activity, is withdrawn at the expense of the digestive

fluids. The nerve-endings that before conveyed sensations in response to demand, are deprived of nourishment and obtunded—decreased in vitality, perhaps languish in semi or total idleness—and by manifestations we are pleased to denominate pain, clamor for a restoration of the lacking blood-supply.

Herein we see the philosophy of the exhibition of remedies calculated to stimulate the digestive function to renewed activity; here the complimentary foods, tea, coffee, alcohol, may serve good purpose, in connection with bland aliments easy of assimilation and that at the same time tax as little as possible the crippled resources of the digestive economy. Again, the class of nourishment is a matter of paramount moment, as the perverse and ailing stomach and duodenum demand to be cajoled rather than driven. Sufficient blood of proper quality cannot be had so long as there is a deficiency; force cannot be developed except through the customary source of energy, for it is both bad and dangerous economy to "rob Peter to succor Paul."

If to force digestion then is dangerous, but one measure is avoidable, and that to compensate artificially for that which may be lacking. In other words, Nature must be copied; while gently stimulated to renewed activity, at the same time she must not be taxed beyond her available resources. It was attempts in this direction that led to the use of digestive ferments and predigested foods, whereby the stomach, duodenum, and accessories might be aided in their functions, and the lacteals and portals supplied with the desired nitrogen and carbon for conveyance to the circulation. These were first given by themselves that they might intercept the nourishment and ensure its proper transformation during its passage through the *primæ viæ*, but latterly it has been found less taxing to also add to the food prior to its ingestion, and thereby save the stomach and intestines, already deficient in secretion, much labor that would otherwise be necessary. Besides, the diet of the ill and convalescent must be prepared in consonance with the demands and abilities of each individual organism, the problem being, the greasest supply of nourishment available to generate vital force, with the least possible expenditure of that in reserve.

In closing, it may be well to say a word regarding nutritive enemata. It is a well recognized fact that there are occasions when it becomes necessary to support the vital organism otherwise than through the mouth, and under such circumstances it becomes desirable to ingest *per rectum*. Here, however, we are encountered by the physiological fact that all digestion ceases at the ileo-cœcal valve—is carried on above it. Starch must be converted into soluble products before it can be taken up by the lower bowel, and proteids must be converted into peptones; fats are practically useless. Again, the bowel is adapted only to absorption. If aliment be introduced *per anum*, it must necessarily first be subjected artificially to a process similar to that which takes place normally in the small intestine. The ileo-cœcal valve, as already remarked, practically bars their entrance into the region where digestion, as differentiated from mere absorption, takes place. If not predigested, it is not fit for absorption. Hence nutritive enema, then, should consist of soluble carbonhydrates, meat peptone, and alcohol.

SEVENTEENTH CENTURY ADVICE TO PHYSICIANS.

In the last issue of the AGE, we presented some advice excerpted from a Cincinnati contemporary, that, while it might be deemed advantageous from a business point of view, was far from being conducive to morality. As a set-off, which has lost nothing by age, we now offer our readers the following, which appears as part of the preface of a curious volume published in 1562, entitled: "Vade Mecum, or a Companion for a Chyrurgion fitted for Times of Peace and War; by Thomas Brugis, Doctor in Physick:"

Presume not too much on thy own wisdome and vertue, lest thou beest lifted up with a vain confidence, and puffed up with pride, for when men are carried with an inordinate and blind love of themselves, they are soon persuaded that there is nothing in them worthy to be dispised, yea, they think that their ignorance is wisdome, insomuch that knowing nothing, they suppose they know all things, and having no dexterity to performe any one commendable work, they presume very inconsiderately to set their hand to every great matter; but the more care and diligence they bestowe, being let with a desire to shew great skill, and thinking to win honour and renown, so much the more they discover their ignorance and blockishness, purchasing to themselves shame and infamy: For a man to know himselfe to be ignorant, is the best science and necessary for men, that without it they cannot be truly skillfull; for as I said before, the ignorant person that knoweth not himselfe to be such an one, but supposeth he knoweth that which he doth not, indeed is as unteachable as a beast can be.

Socrates, who by the oracle was declared to be the wisest man then living, was greatly commended by the ancients, because he said he knew but onely one thing: viz., That he was ignorant and knew nothing.

Now a word or two to the patient: Thou seest in every village a sort of Mountebanks, Empericks, Quacksalvers, Paracelsians (as they call themselves), Wizards, Alcumists, Poor vicars, cast apothecaries, and physitians men. Barbers and Good wives that professe great skill, go with the name of Doctor, which title perhaps they bought at some beyond sea University, where they bestow this degree upon such people for their money; the phrase they use is "*Accipiamus pecuniam, demittamus asinum*," and so with title of Doctor Asse; away he flies into all countries possessing the people with stories and false tales, and leads them to the destruction of their bodies, if not souls too, that an able Physitian or Chyrurgion, who hath undergone a great deal of hardship to benefit himself in his art can scarcely maintain himself, or know who shall be his patients.

Book Notices.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. Witthaus, A.M., M.D. Third edition. Cloth; 8vo; pp. 528. Price, $4.00. Published by Wm. Wood & Co , N. Y.

This contains a maximum of those portions of chemistry that are of direct value to the medical student and practitioner, and at the same time excludes, so far as is possible without detriment to the proper understanding of the subject, all matters that are purely of technological interest.

The new edition is divided into three parts. The first treats of the principles of chemical science, as well as so much of chemical physics as is absolutely essential to a proper understanding of what follows. The second is devoted to special chemistry, and in this the elements are classed strictly in accordance with their chemical characters. In the third, the operations and manipulations which are of greatest utility to the medical man are described. Of notable practical value, too, is the Appendix devoted to chemical orthography, the report of the Committee of the Chemical Section of the Association for the Advancement of Science being followed. It is now conceded that all chemical compounds ending in *in* and *ine*, except the doubly unsaturated compounds, should have the former termination exclusively; thus chlorine, iodine, bromine, etc., drop the final *e*.

THE TIME RELATIONS OF MENTAL PHENOMENA. By Joseph Jastrow. Flexible cloth, 12mo.; pp. 60. Price, 75 cents. Published by N. D. C. Hodges, N. Y.

The study of the time relations of mental phenomena is important from several points of view: It serves as an index of mental complexity, giving the sanction of objective demonstration to the results of subjective observation. It indicates a mode of analysis of the simpler mental acts, as well as the relation of these laboratory products to the processes of daily life. It demonstrates the close inter-relation of psychological with physiological facts, an analysis of the former being indispensable to the right comprehension of the latter. It suggests means of lightening and shortening mental operations, and thus offers a mode of improving educational methods. At the same time it promises in various directions to deepen and widen our knowledge of those processes by the complication and elaboration of which our mental life is so wonderfully built up. It is only within very recent years that this department of research has been cultivated, and it is natural that the results of different workers, involving variations in method and design, should show points of difference. In spite of these, Prof. Jastrow deems it possible to present a systematic sketch of what has been done, with due reference to the ultimate goal as well as to the many gaps to be filled. It was with this object he undertook the little volume before us.

DISEASES OF THE EYE. By Edward Nettleship, F.R.C.S. Cloth; royal 12mo; pp. 508. Price, $2.00. Published by Lea Brothers & Co., Philadelphia.

This is the fourth American, from the fifth English edition, the general work of revision and correction having been carried out for the author by Mr. Holmes Spicer of London, supplemented on this side of the Atlantic by Dr. William Thomson of the University of Pennsylvania—manifest evidence of the character of the volume.

The bulk has been but little increased, however, though apparently great pains has been taken to include such new matter as the progress in ophthalmology warrants; this was accomplished at the expense of that which was immaterial and obsolete. A supplemental chapter of no small value, relating to the detection of color blindness, has been introduced by Dr. Thomson, whose painstaking investigations on this subject are well known to the profession, and whose methods are generally adopted for the examination of pilots and railway employees. In all respects this volume will be found to merit in increased degree the confidence awarded by the profession to previous editions.

HAND-BOOK OF THE PRACTICE OF MEDICINE. By Frederick Taylor, M. D., F. R. C. P. Cloth, 8vo , pp. 877. Price $4.00. Published by P. Blackiston, Son & Co., Philadelphia, Pa.

Dr. Taylor is the well known and highly honored lecturer on medicine at Guy's Hospital, and has given us a work replete with practical information. It is a concise yet complete account of the present status of medical practice, and is of especial utility to students and junior practitioners. Most attention is devoted to the description of Symptoms, to Diagnosis, to Prognosis, and to Treatment, the author believing that these divisions of the subject best answer to the idea of practice. Nevertheless, Ætiology and Pathology are not neglected, though, of course, not so exhaustively considered as in works devoted especially thereto. Aside from the work of Dr. Thomas Hawkes Tanner, we do not know of a single volume devoted to this subject in the English language that is at the same time so clear, concise, and so calculated to enlist the reader.

THE MEDICAL NEWS VISITING LIST FOR 1890. Small 12mo., pp. 224; price $1.50. Published by Lea Brothers & Co., Philadelphia.

A neat little volume intended for a daily record of patients. We are surprised, however, to find still listed among "Remedies Not Yet

in General Use:" *apiol, creolin, convallamarin, hydrogen per-oxide, icthyol, iodol, menthol, nitro-glycerin, pareldehyd, salol, santonin* and *thymol.* This hardly tallies with the claim of the publisher that "the List for 1891 is the result of thorough revision of its predecessor," for certainly the current publications of the past three years have treated of these products to a degree that they can hardly be considered rare or new. We observe also a thumb index has been added that, whatever its supposed utility, renders of little avail the cash and death records.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Sexual Organs. By Samuel W. Gross, A. M., M. D., LL. D. Fourth edition, revised by F. R. Sturgis, M. D. Cloth, 8vo., pp. 173. Price $2.00. Published by Lea Brothers & Co., Philadelphia.

It must be gratifying to both revisor and publisher, that the work is in such unusual demand, while the fact that former editions have been translated into Continental tongues evidences that it fills a void even in foreign literature. It is a careful physiological study of sexual relations and functions in the male, and the conclusions reached are the result of scientific accuracy. No man has done so much in clearing up the diagnosis and treatment of obscure cases, as has Dr. Gross, and his book has a special place in medical literature in that it furnishes a large fund of information concerning important matters that are too often passed over in silence.

Wood's Medical and Surgical Monographs. Vol. viii, No. 1. October, 1890. Paper, 8vo., pp. 353. Price $1.00. Published by Wm. Wood & Co., New York.

This, the final volume of the year, contains: "Suppuration and Septic Diseases," by W. Watson Cheyne, M. B.; "Pharmacopœia for Diseases of the Skin," by James Startin; "The Nasal Neuroses," by Granville Macdonald, M. D.—a paper of more than ordinary excellence; "Artificial Respiration," by Benj. W. Richardson, M. D.; "The New-born Infant, its Physiology, Hygiene, and Nourishment," by Dr. A. Auvard; "The Urine in Neurotic Diseases," by Dr. Alex. Peyer.

Is There a Fundamental Difference Between the Contraction of the Heart and Ordinary Striated Muscle? By Thos. J. Mays, M. D. An eight-page reprint from the Transactions of the College of Physicians, Philadelphia.

Practical Notes on Urinary Analysis. By Wm. B. Canfield, A. M., M. D. A thirty-eight-page reprint from the Maryland Medical Journal.

A Rare Form of Intestinal Strangulation by a Band. By Robt. Abbe, M. D. A five-page reprint from the New York Medical Journal.

Paranephritic Cysts. By Robt. Abbe, M.D. A twelve-page reprint from the N. Y. Medical Journal.

Notes and News.

Fear of Disease a Prevention of Mortality.—Dr. R. G. Eccles, in the Popular Science Monthly, says no one fails to send for a physician in typhus, yet only six persons in a million die of this disease since efforts were made to suppress it. Four hundred and twenty-eight in a million die of whooping-cough because it seldom frightens patients, and neighborly old ladies of both sexes give advice. Three hundred and forty-one in a million die of measles because it so frightens as to induce the friends to send for a doctor. Two hundred and twenty-two in a million die of scarlet fever, because medical advice is sought sooner, and more implicitly obeyed. One hundred and sixty-eight in a million die of diphtheria, because it frightens more than most other diseases, and induces people to send for a doctor quickly. Thus we may class diseases as more or less fatal as people are afraid of them and seek proper advice to both prevent and cure. If people are not afraid of diseases, they act the part of fools by not seeking medical knowledge and skill, and so give the disease a chance to kill more people. Were it possible to cause people to so generally fear syphilis, gonorrhœa, etc., as they have been taught to fear diphtheria, their ravages would be diminished to a surprisingly large extent. It remains for the medical profession to teach the people a rational fear of these venereal diseases, so that they may use the proper measures for their prevention, as well as their cure.

Clinical Phonography.—The phonograph is a pretty toy, and the time may yet come when its wonderful properties will be utilized in ways little thought of at present. One obvious practical application of this ingenious instrument was demonstrated last week at a social gathering of medical men at 38 Wimpole St. It had occurred to the fertile mind of a fellow editor that advantage might be taken of the recording and reproducing acoustic properties of the phonograph to demonstrate the phonetic peculiarities of certain diseases. Colonel Gouraud, the chaperon of Mr. Edison's baby, availed himself of the facilities placed at his disposal by Dr. Semon, and secured records of a series of pathological varieties of phonation. On the evening alluded to, these sounds were reproduced with a vividness and a realism which were positively uncanny. The "long drawn sigh" of whooping-cough, with the cries of the child during the *entr'acte*, were as audible as if the little sufferer had been in the ward—or rather the room—and the same was satisfactorily accomplished with a number of other more or less distressing sounds which had been bottled up for the occasion.—*Medical Press and Circular*.

The Faith Cure and Manslaughter.—A very sad occurrence in connection with faith cure is reported from Toronto. Mr. John Kent, a well-known citizen, had been the subject of diabetes for several years, but in a state of fair general health and in condition to attend to business. On the advice of his physician he had adopted a form of diet under the use of which the sugar in the urine was diminishing in quantity and the patient gaining in health and strength. Not satisfied with the progress he was making, he put himself in the hands of the "Christian Scientists," who are both numerous and popular in Toronto. The usual faith process was gone through with. He was told to eat what he pleased; did so, and died of diabetic coma. A coroner's inquest was held, which ended in a verdict of manslaughter against Mrs. Stewart, the so-called Scientist, "in that he (Kent) came to his death through the gross ignorance of Mrs. Stewart, who undertook to cure him of his disease, in not advising him to continue the restricted diet prescribed by his former physician." The coroner, after summing up the evidence, charged directly against the accused. When cross-examined, Mrs. Stewart admitted that she knew very little of medical science. She was arrested and held in bail to stand her trial for manslaughter at the next session of the Court of Queen's Bench.

Female Physicians in Earlier Times.—It is not generally known that in the early Middle Ages much of the military surgery of the period fell into the hands of women, who were not unskilled in simple cures. In the old troubadour song about Auscassin and Nicolette, we are told that when the hero got his hurt, Nicolette looked him over, found his arm out of joint and "put it in again." In feudal times it was the custom to educate girls of noble birth, in practical matters pertaining to medicine and surgery, especially the healing of wounds. But by the time of the sixteenth century, the sphere of women, at least in the German army, had fallen off several points from the dignity of the original treatment of the wounded, to a compound of nurse, camp-follower, and something even less desirable, which is best expressed by the title of the official who had charge of them, namely, "*hurrenwaibel.*" In camp, the sick and wounded were collected into a special hospital tent and nursed by these women, and on long marches were carried along in wagons, or left behind in villages or cities, under the care of a "spittelmeiter."—*Jour. Am. Med. Association.*

The Sexual Perversion of Hair-Cutting.—Dr. A. Motet, the well known alienist, has reported to the Société de Médecine Légale, as recorded in Le Progrès Médical, a case of unusual sexual perversion. A young man was arrested for attempting to cut off a young woman's hair. The police were led to make a search of the rooms occupied by the accused, and there found a considerable quantity of hair, the motive for the cutting off of which had been sexual and not mercenary in origin. It was subsequent to an attack of herpes intercostalis in 1886 that his erratic behavior began; he then for the first time began to have the imperative propensity to cut off women's hair. So soon as the shears would touch the hair he had an erection, and the cutting off was followed by an ejaculation. It was found that his parents, on both sides, had transmitted to him a marked neurotic tendency, but this had not prevented his acquiring a trade and becoming a skilled and intelligent artisan. He was adjudged insane and confined for a time in an asylum. He recovered under treatment, and was set free from his peculiar perversion. He was enabled afterward to resume work at his trade.

Living by Rule.—Oliver Wendell Holmes thinks that he owes his good health and the retention of mental vigor in his eighty-first year, to the extreme care he has long taken of himself. Never robust, he was still wiry in his earlier and maturer life; but since he reached eighty his hygienic vigilance is unceasing. The rooms that he daily occupies are equipped with barometers, thermometers, aerometers, every kind of instrument, in short, to prevent his incurring the slightest risk of taking cold. He knows that pneumonia is the most formidable foe of old age, and is determined to keep it at a distance if possible. He never gets up until he knows the exact temperature during winter, or takes his bath without having the water accurately tested. He lives by rule, and the rule is inflexible. His time is scrupulously divided—so much allotted to reading, so much to writing, so much to exercise, so much to recreation. His meals are studies of prudence and digestion. He understands the specific qualities of all ordinary foods, and never departs from the severest discretion in eating.—*Times and Register.*

Dr. J. H. Baxter has recently entered on the duties of Surgeon-General of the U. S. Army. The Medical Record, referring to the fact, states that the appointment comes in the natural line of promotion, since he is the senior next in rank to the retiring officer whose place he is to fill. Dr. Baxter entered the military service in June, 1861, as Surgeon of the Twelfth Massachusetts Infantry. In April, 1862, he was transferred to the United States Volunteers, and at the close of the war entered the regular service with brevet rank of colonel. In July, 1867, he was appointed Assistant Medical Purveyor, with the rank of lieutentant-colonel, and five years later was promoted to be Chief

Medical Purveyor, receiving at the same time a colonelcy, and has held that office and rank ever since. The records of the department contain numerous references to Dr. Baxter's faithful and meritorious services, both during and since the war.—*College and Clinical Record.*

A Journalistic Departure.—As is well known, there are a number of anæmic—and chlorotic—journals that are pining for an opportunity to distinguish themselves. That it may be possible to renew their vitality, is made patent by a perusal of the following announcement made by an Italian agricultural journal:

To our respected readers!—Being aware that farmers have not much time to read our journal during the summer season, we have concocted a plan for making the periodical render them good service. In future, during the summer months, we will print it on fly-paper. All that is required is to dampen the sheet, sprinkle sugar on it, and lay it on a plate. If by any chance a fly should escape the general slaughter, it may be regarded as immortal, our preparation being sudden death to these pests. N. B.—We beg to warn our fellow-editors that they are strictly prohibited from adopting our idea, which is patented.

Certainly there is no valid reason why certain unfortunate medical and pharmaceutical periodicals should not follow out this idea and thus become publications of practical utility.

Apparatus for Applying Oily Liquids to the Urethra.—Dr. Bransford Lewis, of St. Louis, Mo., recently published an account of a very ingenious instrument for the purpose of applying dense, oily liquids to the urethra. The applicator consisted of a round box with a tight-fitting cover, and a rubber tube for introduction into the urethra. The cover is provided with a thread which tightly fits a female screw with which the inner surface of the box is provided. The ointment that is to be applied is placed in the box, the tube is introduced into the urethra, and the cover screwed in until the the required quantity of the medicament has been forced into the canal.

As the soft rubber tube is rather unmanageable, I have devised a modification of the instrument, in which a hard rubber endoscopic tube is utilized instead of the soft tube. Another detachable tube, slightly curved near the point, is used far the cervix uteri.

I can endorse this apparatus as an efficient means of medicating the urethra and cervix in chronic inflammatory affections. I do not, however, recommend its use in acute affections of these parts.—Dr. G. F. Lydston, in *Jour. Amer. Med. Association.*

Normal Weight of Man.—A rule to determine the normal weight of man is as follows: A man should weigh just as many kilogrammes as he measures centimetres in height, after deducting one metre. A man who measures in height 1 metre 80 centimetres (5 ft. 11 in.) should weigh 80 kilogrammes, or about 160 pounds. The rule is both ingenious and approximatedly correct.

Therapeutic Brevities.

Spermine a Stimulant.—As is well known, Prof. Brown-Sequard uses for his injections an emulsion produced by triturating the testicles of Guinea-pigs. Inasmuch as by this method aseptic infection does not seem to be excluded, various investigators have sought the active principle of this medicament in a chemically pure form, and according to the report of Prof. Poehl, of St. Petersburg, this has been accomplished. He uses for therapeutic exhibition the alkaloid or leucomaine *Spermine* as prepared from the testicles and prostate glands of young healthy bovines just slaughtered, or the testicles of young colts. The production of Spermine from this substance is very complicated, and we cannot dwell upon it here, or upon the reactions exhibited. It seems to be worthy of mention, however, that Spermine as a precipitate of gold chloride, on treatment with metallic magnesium gives forth the odor of fresh human sperma.

Dr. Roschtinin, Body-Physician to the Emperor Alexander, reported before a session of the St. Petersburg Medical Society of the 27th of March, on a series of experiments which he had made with the injection of Spermine, and declared it had proved an excellent stimulant in various diseases, chiefly: Asthma with heart complications, paralysis of the extremities, angina pectoris, diabetes, fatty degeneration of the heart, agony in pneumonia.

Spermine has also been used with good results by other Russian physicians in: Delirium tremens, tuberculosis (in which strength and appetite were remarkably improved) and in atonic ulcers of the leg.

The proposal that Spermine be used as a remedy, is of special interest, for the reason that in such case an organic base, derived from the animal organism in the normal condition, would be brought into play as a medicament. After such a proposal, it is to be expected that further organic bases, arising during morbid states of the organism, will be used for medicinal purposes, and that assuredly amongst these substances, a remedy which will elevate the temperature, not possessed by the therapy of the present day, will be found.

Dr. Poell also states that the two important stimulants derived from the animal kingdom, namely, castoreum and musk, have direct relationship to the sexual functions of the animals in question, and produce an effect similar to that of Spermine.—*Deutsche Med.-Ztg.*, No. 79, p. 896.

Is Cocaine Aphrodisiac? — Richardson, of Philadelphia, has recently reported the case of a married woman, of reserved and modest bearing, who, having to undergo a slight surgical operation, took a small dose of cocaine in hypodermic injection as a preliminary. An erotic excitement resulted which reflected itself unequivocally in the words and gestures of the patient. The operation had to be remitted until the following day. The next day the same scene, though less pronounced, under the influence of a smaller dose. Similar cases have been observed by Sandré and Cunningham.

Most works on therapeutics fail to mention this property of coca and its alkaloid. It is,

however, a fact that even in Peru the natives are not ignorant of it. Leopold Casper, of Berlin, regards coca as one of our best genital tonics.

Practical conclusions: Coca and cocaine may be utilized in the treatment of certain forms of impotence. In giving cocaine it is well always to remember the sexual excitement which it may produce, and never to administer it to a woman save in the presence of a third person—some friend of the patient—as a witness, just as in administering chloroform.—*L'Union Medicale du Canada*, p. 443, August, 1890.

The Therapeutics of Epilepsy.—It is well known that the bromides, when used persistently in large doses, cause various very disagreeable symptoms; therefore something which will be equally efficacious in lessening the number of epileptic seizures, and at the same time not cause these symptoms, is a desideratum. With this end in view, various drugs, as analgesin, acetanilid, and bromide of ammonium, were separately tried, but with indifferent results, until September, 1888, when Dr. H. C. Wood suggested the use of analgesin and bromide of ammonium in combination. Since that time this mixture has been used with excellent results in the treatment of forty-three cases of idiopathic epilepsy. In none did it fail to cause marked amelioration of the symptoms, and in some it gave relief when all the other commonly used remedies had failed, and in none have we had any indications of bromism, or of the disagreeable symptoms to which analgesin sometimes gives rise.—Chas. S. Potts, M.D., in *University Medical Magazine.*

Treatment of Peritonitis.—Dr. Charles Kennedy, of Chicago, gives his unqualified approval to the cathartic treatment, but prefers calomel to the salines. Professor G. W. Miltenberger of Baltimore reports several cases of "idiopathic" and puerperal peritonitis where two drachms of "sodii et potassii tartras" were given as often as necessary to freely relax the bowel. The relief afforded to the pain and soreness was quick and lasting, and recovery prompt and complete. Suckling reports a case of peritonitis due to typhlitis from fæcal impaction in which he obtained excellent results from 3 ss. doses each of magnesium sulphate and sodium sulphate in combination with 10 minims of belladonna. Dr. W. E. B. Davis, of Birmingham, Alabama, refers to a large number of cases treated by him in the most satisfactory manner by purgation, including several cases of threatened peritonitis after laparotomy.—*Kansas City Med. Record.*

Hydroxylamin.—Hydroxylamin is a new parasiticide in certain skin affections, such as lupus, herpes tonsurans, sycosis menti. In psoriasis, it is said to act like chrysarobin and pyrogallic acid, and Eickhoff advises the following formula: Hydrochlorate of hydroxylamin, 0.10. gramme; alcohol and glycerin, ää 50 00 grammes.

Taby has employed it in combination with alcohol and chalk, compresses being wet with the solution and kept over the diseased part, thus: Hydrochlorate of hydroxylamin, gramme 1.00; water, 1000.00 grammes; carbolate of lime, sufficient to neutralize.

Used according to the first formula this remedy is said to be very effective in lupus, herpes tonsurans, parasitic eczema of the scalp, a very few applications curing completely. It must, however, be employed with caution, as it possesses toxic and irritant properties.—*E. P. Hurd, M. D.*

Cannabis Indica in Impotency.—The action of cannabis Indica upon the genito-urinary functions commends it for the relief of impotence more especially when due to functional derangements with a depressed condition of the vital powers; but in these cases care should be exercised that the drug is not given in too large doses. As synergists, it will be found advisable to combine with it small quantities of both nux vomica and damiana as follows: Ext. cannabis Indicæ, gr. v; ext. nucis vomicæ, gr. v; ext. damiana, gr. xx. M. et ft. pil. No. xx. One pill after meals and at bedhour.

A Local Anæsthetic Formula.—Local anæsthesia is produced at one of the leading hospitals by means of a spray composed of ten parts of chloroform, fifteen parts of ether and one part of menthol. After one minute's application of this compound spray, complete anæsthesia of the skin and neighboring tissues is produced and will persist from two to six minutes. This suffices for some minor operations, such as opening an abscess of the cervical glands, incising a deep-seated whitlow, or excising an epithelioma of the nose, etc.

Ointment for Pigment Spots of Pregnancy.—The following prescription for the treatment of cloasma of pregnancy is quoted by the Revue de Thérapeutique:

℞ Zinc oxide, 1 drachm.
White precipitate, 1½ grains.
Castor oil, 2 drachms.
Essence of rose, 10 drops.
Cacao butter, 2 drachms.

M. Apply morning and evening.

Remedy for Dyspnœa.—Huchard states that aspidospermine, the active principle of *Aspidosperma quebracho*, is a very useful remedy in the treatment of dyspnœa. When powdered it may be prescribed in the dose of one-half to one and one-half grains a day, or it may be injected hypodermically provided that the hodrochlorate is employed, the solution being made by adding seven grains of the drug to every two and a half drachms of distilled water.—*Medical News.*

Snuff for Coryza.—In the Journal de Médecine de Paris, Aschmann recommends the following powder in coryza:

℞ Finely powd. naphthalin, 6 drachms.
Finely powd. boric acid, 6 drachms.
Powdered camphor, 15 grains.
Extract of violets, 15 grains.
Essence of rose, 10 drops.

To be used as a snuff.

Medical Progress.

Acute Pleurisy and Acute Rheumatism.—In 1883, Aufrecht drew attention to the decided results he had obtained in the treatment of acute pleurisy with the salicylates. Recent writers, notably Tetz (in the Therapeutische Monatshefte, No. 7, 1890), have confirmed his observations. We must allow that the title of a remedy to cure acute pleurisy must be very well substantiated. Acute pleurisies have a way of stopping short without treatment, of beginning with a fierce pain which suddenly abates, and of suddenly going on into the stage of extensive effusion with very little warning pain at all. Nevertheless, the successful results of the administration of salicylates in acute pleurisy, as recorded by these writers, are sufficient to raise in our minds the question as to whether acute rheumatism and acute pleurisy are not the same disease. Long ago Mr. Hilton, in his admirable lectures on Rest and Pain, pointed out the resemblance between the pleura and pericardium and the joints. The pleural cavity represents a huge joint constantly in motion. It has the two surfaces covered by serous membrane and gliding smoothly upon each other by the aid of a lubricating fluid. And Mr. Hilton went on to apply his law of associated muscular action, nerve supply, and function in the pleura, showing how, when inflammation took place, the nerves of the pleura that were directly in communication with those supplying the intercostal muscles called for cessation of movement, and how the pain felt in the skin over the inflamed area was the agent by which this needed rest was obtained. Practically the same thing occurs in the joint that is inflamed and painful from acute rheumatism. Probably the resemblance between inflammation of a serous membrane and that of a joint would be more striking were the conditions exactly similar. But in the case of the serous membrane complete rest of the opposed surfaces cannot be obtained. The lungs cannot cease taking in air, and the heart cannot stop beating. Probably this accounts for the more fibrinous and adhesive character of the effusion, a further effort of Nature to secure rest. In the case of the joint immediate rest is secured, and the effusion is not adhesive in ordinary cases.

The clinical features of acute rheumatism point to a common origin with pleurisy, if not to a practical identity. Many cases of acute articular rheumatism are complicated with effusion into the serous membranes. We say *complicated*, but we mean really that the pleural joint or the pericardial joint has been attacked as well as the wrist joint or the elbow joint. And pleural effusions are of much more frequent occurrence in the course of rheumatism than is commonly supposed. In the ordinary run of cases of acute rheumatism the joints are so very painful that an examination of the bases of the lungs is not quite practicable, and, moreover, there are many practitioners who do not injure themselves with overzeal in the clinical examination of patients, particularly after a good working diagnosis has once been made out. We are satisfied that, if pleural effusions in rheumatism were more frequently looked for, they would be oftener found, and those who found them would be more disposed to regard rheumatism as a general attack on all the joints, including the serous membranes.

The general tendency to look with suspicion upon "exposed to cold" as a cause for so many diseases, to regard chilliness as an effect consequent upon the poisoning of the system by some external agent, rather than as a cause of disease, makes us skeptical as to whether such a thing as *pleuritis a frigore* exists. It is not more rational to regard it as being due to some inherent tendency in the individual to inflammations of an arthritic form, and to infer that, when pleurisy occurs alone, it simply means that only one joint is affected, or perhaps that the main attack has been upon one joint, the others escaping lightly? The frequent occurrence of pleurisy without effusion into other joint cavities might arise from the fact that into the pleura a quantity of fluid may be effused rapidly, while when the joints are the main point of attack but little can make its way into them. To borrow an old expression, the *materies morbi* readily leaves the blood to fill up the pleural cavity, but, attempting to pour itself into a joint, it meets with resistance and seeks an outlet elsewhere. The effects of the salicylates, so well marked in rheumatism, ought to be equally good in this disease, and we trust that many observations will be made on this interesting subject.—*N. Y. Med. Jour.*

Treatment of Diabetes Mellitus.—Dr. F. W. Pavy (Medical Press and Circular) says:

The first consideration is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at, is to restore the assimilative power over the carbo hydrate elements of food, and until this has been accomplished it cannot be said that a cure has been effected, but only that the disease is held in subjection and prevented, (as long as the condition can be maintained), from leading on to an unfavorable issue. What most conduces to this desired restoration of assimilative power is, the maintenance of a normal state of the system by keeping it free from the passage of sugar through it, and in this way bringing a healthy condition of body to bear in helping to promote a removal of the faulty state.

According to my own experience, opium and its derivatives, codeine and morphine, are the medicinal agents which, more than any others I know of, assist in the actual cure of the disease, by which I mean a restoration of the assimilative power which has been impaired. The influence of these agents may be witnessed in cases where the sugar has been brought down by diet to a certain point, but is unsusceptible of entire removal from the system by dietetic treatment alone. The complete removal may then be sometimes observed to follow the subsequent administration of the drug, showing that the medicinal agent has acted in the direction of exerting a restraining influence over the abnormal production and elimination of sugar.

When cases of a favorable nature, that is, cases occurring above the middle period of life, are treated by these combined measures, and the treatment is steadily carried on for some time, it is a matter of common observation that

the system of the patient becomes able to tolerate a certain amount of carbo-hydrate food, without its leading to the elimination of sugar. Often, with strict observance of the required treatment, the assimilative power is found to become so far re-established that a fair amount of the carbo-hydrate principles, or even an ordinary diet, may be taken without leading to the elimination of sugar. When this is the case, carbo-hydrate principles, according to the extent found to be tolerated, may be taken without occasioning harm; but the object is to keep below the point at which the escape of sugar takes place, and when this is done actual benefit, instead of injury, is derived therefrom.

Here I may refer to the aid afforded by the quantitative testing of the urine. It is absolutely essential, I consider, in the management of a case, to possess the knowledge thus supplied, not only for the purpose of regulating the treatment according to the progress made, but also for keeping a check upon the manner in which the directions given are being carried out. When in a case it is found to happen that the assimilative power has been restored, it is permissible to consider that an actual cure has been effected; but it is always requisite to bear in mind that a weak point has existed, and that it is advisable to avoid unduly taxing a power which has previously given evidence of being at fault.

American Therapeutics of Diphtheria.—Prof. A. Jacobi, M. D., in his paper, presented at the Berlin Congress, traced the history of various epidemics extending from 1659, when Samuel Danforth lost "four children by bladders in the windpipe," down to the time (1868) when he furnished a list of 203 cases, by which it became known that the contagion was very active and affected every kind of wound. The present condition of the therapeutics of the disease in North America was marked by the extra attention devoted to prophylaxis both in literature and in practice. The sanitary arrangements made in New York City for combating epidemics of the disease were admirable, the cases being carefully isolated. Practitioners endeavored to preserve the general health of their patients by the use of cold water, and the catarrh of the mucous membranes of the nose and throat were combated with salt water, boracic acid, nitrate of silver, exsection of hypertrophied tonsils, etc. Chlorate of potassium was employed to preserve intact or to restore the mucous membrane of the oral cavity, tincture of the chloride of iron for its anti-fermentative and astringent effect, in frequent doses, so that a child of a year takes from three to four grammes daily, in twenty or forty doses. The local treatment of diphtheritic wounds or surfaces (circumcised prepuce, vagina) was mostly by tincture of iodine, iodoform in powder or ointments, or solutions of bichloride of mercury, 1 in 1000 or 3000. An extensive list of other drugs was given. Gargles were considered adjuvants when no violence was used in their administration, but nasal injections were gradually taking their place, seeing that they reach the most affected part of the larynx much better and are much better tolerated. Nasal diphtheria would not get well without some warm, mild injection. Conjunctival diphtheria he treated with ice and strong solutions of boracic acid. Referring to the medical treatment of diphtheria, he was of opinion that it was impossible to give too much brandy in this disease, and stated that from 50 to 1000 grammes might be given daily with advantage. Alcohol ought to be given early, and a certain quantity in all cases, seeing that heart failure comes unexpectedly, and then stimulation comes generally too late. It was therefore a good practice to give cardiac tonics in time. Strychnine was indispensable in diphtheritic paralysis. The author spoke of the effects of mercury on this disease, and then alluded to the operative treatment by intubation, which had supplanted tracheotomy because of the rapidity, bloodlessness, and equal efficiency with which it can be performed. Its results in the hands of its discoverer, O'Dwyer, were as good as those in tracheotomy. Every case was managed according to its individual indications; isolation was enforced, fluid food given, moderate stimulation resorted to, absolute rest enjoined, even the nasal injections are made in a recumbent or semi-recumbent posture, and complications watched and treated.—*Lancet.*

Should Morphia and Atropia be Given Before Chloroform Inhalation?—It has been claimed by several writers that the effects of chloroform inhalation are more quickly produced, and the anæsthetic influences of a given quantity of the drug prolonged, if a dose of morphia be given before the beginning of inhalation. This statement has naturally found its way into standard text-books. Thus Bartholow says, "before the administration of chloroform, morphia should be injected hypodermatically, to diminish the dangers of the inhalation, and to secure relief to the after-pain of the surgical operation;" and again, "when this is done a much less quantity of the anæsthetic is needed to induce insensibility, and the stage of narcosis is sufficiently prolonged for ordinary surgical operations without requiring renewed administration of the ether or chloroform.

In L'Union Médicale, August 5th, 1890, is published a discussion which took place in the Paris Society of Surgery upon a paper treating of the use of hypodermatics of morphia and atropia before the inhalation of chloroform. The author of the paper, M. Regnier, was led to try this method in his practice by the recommendation of M. Dastre, who reported favorable results from its use in animals, and of M. Aubert, a surgeon, who stated that narcosis and awaking were both facilitated by the injection of one-fourth grain morphia muriate and one-eighty-fifth grain atropiæ sulphas, fifteen or twenty minutes before the operation, and that inconvenient results were observed but rarely. M. Regnier used this method with a number of patients, until, unfortunately, a fatal accident occurred.

Another member had used it in fifty or sixty cases. He did not notice any peculiarities, except that certain patients complained of insatiable thirst.

It was suggested, in conclusion, that the better results obtained with dogs might be due to the very large doses of atropia given (in proportion to the body-weight), which would be

utterly out of the question in operations upon human beings.

Interesting as are these observations, and salutary as warnings always are regarding the use of dangerous drugs, the experience of surgeons in New York does not bear out the objections urged against this long-tried and well-known method of mixed narcosis. It is true ether is the anæsthetic here, but it is equally true that no accidents have as yet occurred; but, on the contrary, it has been found that anæsthesia can be more safely prolonged with less ether than under other circumstances, and that the patients are in a more comfortable condition after the operation. Particularly is this the case in operations upon the face, throat, and upper air-passages when the proper administration of ether is attended with unusual difficulty.—*N. Y. Med. Record.*

Euphorin.—Under the name of euphorin, Sansoni (Therapeutische Monatshefte, September, 1890) describes the physical and therapeutical properties of a new compound which, chemically, is phenyl-urethan. It is a white crystalline powder, with a faint aromatic odor and a slight taste suggesting that of cloves. It is sparingly soluble in cold water, readily dissolves in alcohol, and best administered in white wine, in which it is easily dissolved.

Given to healthy men, in doses of from 0.10 to 0.20 gramme, euphorin has no apparent effect upon the pulse, the respiration, or the temperature; and in dogs large doses do not lower the blood-pressure, as determined by the manometer. Still more important is the fact that it causes no changes in the blood—in animals the blood remaining normal even after toxic doses have been given.

Clinically, Sansoni finds that euphorin possesses valuable antipyretic, antiseptic, antirheumatic, and, in some cases, analgesic effects. As an antipyretic, he has employed the drug in fever from various causes, as typhoid fever, croupous pneumonia, phthisis, acute rheumatism, pleurisy, orchitis, influenza, etc., administering it either as a powder or dissolved in wine. The fall of temperature begins within an hour after the administration, reaches its maximum usually in about three hours, and continues, as a rule, for from five to seven hours. In some cases the fall is more brief, and in a few it continues for fourteen hours. The subsequent rise of temperature is usually sudden and accompanied with a chill, the duration and severity of which are proportionate to the intensity of the disease. During the period of apyrexia the patient has a feeling of well-being. Cyanosis is seldom observed, and the pulse and respiration are regular. The antipyretic action varies in different persons, and it is best to begin with a small dose (0.10 gramme), increasing until the proper amount is determined. To most adults, from 1. to 1.75 grammes can be given daily without producing harmful effects, its antithermic power being twice that of analgesin.

In rheumatism, both acute and chronic, the doses of euphorin should be larger than those given to reduce the temperature. From 1.50 to 2. grammes, or even more, should be given daily. In acute rheumatism the good effects appear very soon after the drug has been administered; the temperature falls, and the pain, whether due to inflammation or to the pressure of the swelling, disappears.

As an analgesic, euphorin is very useful in orchitis, less so in sciatica, the lightning pains of tabes and trigeminal neuralgia, and is almost useless in intercostal neuralgia and migraine.

The observation that carbolic acid is formed when euphorin is brought in contact with an alkali, led Sansoni to test its antiseptic powers, which, in the case of an obstinate ulcer and one of chronic ophthalmia, he found were excellent.

Insomnia of Children.—The treatment of insomnia of children is one of the most important subjects which come under the attention of medical men; for, while at times insomnia is not a very serious matter, many times it is very serious to both children and parents. In discussing the treatment of insomnia, Simon, as quoted in the Revue Médicale, July, 1890, dwells upon the importance of searching for the cause, which is often very difficult to discover. Most frequently insomnia is caused by dyspepsia; and it is important to question parents as to the manner in which a child is fed, and to investigate the milk of the nurse, to see if starchy food has not been given too early, or even alcohol or possibly tea or coffee. Sometimes insomnia depends upon the fact that the evening meal is too large. Children as old as three or four years should not eat too much in the evening immediately before sleeping.

When the cause of insomnia has been discovered, the first duty of the physician is, of course, to do away with that. After this, hypnotics may be required; and, of all hypnotics, Dr. Simon truthfully says, opium is the very best. He says an attempt has been made to banish the use of opium from the therapeutics of infancy, but that this is entirely wrong. It would not be proper to give opium to a child suffering with constipation or disorder of the kidneys; but in the absence of such contra-indications, laudanum may be prescribed in the dose of a half-drop under one year, and of a drop for each year after that. Syrup of codeine is a good hypnotic, and is admirably borne by little children. Half a coffeespoonful may be given under one year, and a spoonful for each year afterwards. The bromides are often useful, four or five grains at six months of age, seven or eight a year, and afterwards fifteen grains at a dose in the evening. Chloral is an excellent hypnotic, and, Simon says it is devoid of danger in the same doses as are recommended for the bromides. Simon advises that it be given preferably, in a lavement, using first a simple lavement to wash out the bowel, then the chloral, combined with camphor or musk, in the yolk of an egg, stirred up with a little quantity of water. He thinks the chloral is especially adapted to children who are threatened with convulsions, hiccoughs and jerkings.

These suggestions are very interesting as coming from a man of great ability and much experience, and especially because they do not consist in theoretical studies of this troublesome difficulty, but propose plain and practicable measures for curing it.—*Med. and Surg. Reporter.*

THE DOSING MANIA. — Intemperance assumes many popular forms not directly assailable from prohibition and temperance society stand-points. Alcoholism, advertising its victims by unmistakable signs and symptoms, stands as the emblematic figure-head of indulgence, and is the chosen target of those who seek to crush this evil by law. Drug habits may eventually produce more horrible effects than alcoholism, but are more secretly practised and with less danger of immediate detection. Fortunately, the difficulty of constantly procuring the desired supply presents an obstacle to the popularity of this form of vice, but it is not an entire check to its pursuit. Opium or morphine, and cocaine, taken at first for medicinal purposes, and continued till use becomes abuse, weave a web around the feet of the wretched victim, who becomes hopelessly entangled in slavery. Chloroform and chloral by their soothing properties, ensnare their percentage of *habitués;* and so the list may be increased by the various hypnotics, anodynes and anti-spasmodics, often sought to induce sleep or to quiet excited nerves.

There are persons who, though they would regard with virtuous condemnation the hypodermic consolation of morphine, or the tippling of cologne spirits, or the binding up of shattered nerves with assafœtida, nevertheless, fail to recognize the fact that they, themselves, are addicted to the drug habit. This latter evidence of the foolishness of human nature is manifested in the general dosing mania which takes possession of certain classes of individuals. Sometimes, it is one particular sovereign remedy which is in favor, and which is applied for all sorts of complaints, for every member of the family, and at every season of the year; like Patrick's potations of whiskey to keep out both the heat and the cold, this cure-all relieves alike whooping-cough or gout. Then, again, the mania consists in treating some fancied or real ailment with every available remedy in the Pharmacopœia, till nothing but the remarkable toughness of the human anatomy saves the life of this devotee of drug tippling, and furnishes a commentary on the effectiveness of medicine in general.

When the drug fiend's system becomes so saturated as to be impregnable to all remedies, resort is had to the unconscious physician, who vainly endeavors to make the impression which he expects from the results usually following his treatment. Often, indeed, while following the course prescribed by the physician, these maniacs surreptitiously alternate his remedies with occasional doses of their own selection, and, when relief is not obtained, the doctor must shoulder the blame.

Reckless, indiscriminate dosing is conducive to disease, and opposed to the theory of the practitioner, who considers the use of drugs only when regulated by skill and experience, as a valuable assistant to Nature in restoring and preserving health.—*Times and Register.*

MASSAGE IN THE TREATMENT OF DYSPEPSIA.—Dr. Cséri, of Budapesth, publishes an account of a mechanical plan of treating chronic dyspepsia which he has lately been carrying out with excellent results. The plan consists mainly in suitable dieting, and in a peculiar kind of massage. The author practices the latter when the stomach is full—about two or three hours after dinner. Frequently changing his mode of proceding, he strokes and kneads the stomach from the fundus toward the pylorus, first gently and superficially, then more energetically, for ten or fifteen minutes, the patient lying on his back with his legs drawn up, and breathing with his mouth open. During the last few minutes the massage is extended to the bowels. The manipulation is neither painful or disagreeable, but is very well borne. After the massage the patients experience a feeling of warmth and comfort; occasionally they are sleepy, but the fullness and sensation of weight have generally disappeared. The immediate result of this kind of massage is that the stomach is freed from gas, thus producing a great feeling of relief. The time chosen for the massage is when part of the already chymified ingesta begins to enter the duodenum from the healthy stomach. In dyspepsia the stomach is generally sluggish, and either the quantity or quality of its secretion is impaired, and consequently chymification or peristaltic motion, or both, are insufficient. It is also known that mechanical stimulation of the stomach may increase its secretion, and the author considers himself justified in concluding that massage thus increases the process of digestion. He also finds that at the same time muscular power increases and that the massage mechanically helps to advance the stomachic contents into the duodenum. The rapid cure of pains and general *malaise* after eating in cases of nervous dyspepsia is easily explained by the fact that the manipulation dilates the pylorus, so that after a few days it offers no impediment to the passage of the food.—*The London Lancet.*

PATHOLOGICAL HISTOLOGY AND NATURE OF LUPUS ERYTHEMATOSUS.—If the tuberculous character of common lupus is to-day well-established, it is not so with lupus erythematosus. I have resumed its study with the aid of anatamo-pathological, bacteriological and experimental investigations.

Pathological Anatomy: The lesions of the skin consist of a diffuse infiltration of embryonic cellules. These cellules are grouped particularly about the vessels, but never form nodules as in the vulgar lupus. A large number of them, irregularly distributed, undergo granulo-adipose or colloidal degeneration; we never find the true giant cellules. The granulo-adipose or colloidal degeneration attacks also most of the elements of the skin which are thus destroyed—fasiculæ of connective tissue, sebaceous glands, etc. The sebaceous glands at times have their orifices obliterated and are filled with grains like milium. The vessels are silated—their walls often return to the embryonic state. The nerves are sound. The epidermic lesions are: Atrophy of all the layers with a dry condition of the epidermis, contrary to what may be observed in common lupus. In the acneic lupus, the sebaceous glands are hypertrophied, often encysted and approaching the surface of the skin, and more or less infiltrated with embryonic cellules.. On the mucous surfaces, the histological lesions are analogous to those of lupus of the skin.

The granulo-adipose degeneration of the embryonic infiltration and of the normal elements of the skin, produces the process of cicatrization by interstitial absorption, which gives a peculiar aspect to certain portions of the patches of the lupus erythematosus.

Bacteriological Examination: I have not been able to discover tuberculous bacilli in the sections of lupus erythematosus.

Experimental Study: In eight cases of pure lupus erythematosus, fragments from which I inoculated on animals, I have obtained no development of tuberculosis.

These varying results do not favor a belief in the tuberculous nature of lupus erythematosus, neither will clinical study sustain it; and if it has been pretended that the lupus erythematosus can transform itself *in situ* into common lupus, this is due to the fact that in certain cases the superficial and congestive nodules of true lupus, spreading confluently, are seated in the papillary layer, and may resemble lupus erythematosus, from which, however, they differ by their softness.

The tuberculous nature of the lupus erythematosus is accordingly far from demonstrated. —*Le Mercredi Medical*, p. 432.

Bromide of Ethyl as an Anæsthetic.—A series of recent publications demonstrate the value of bromide of ethyl as an anæsthetic in minor surgery. M. Leon Szuman, of Thorn (Therapeutische Monatsheft), confirms the observations of MM. Asch and Pauschingert, (Circular of December, 1888), made in the use of this drug in minor operations and in practical obstetrics. He recommends the use of a mask such as is used in chloroform anæsthesia, and to pour upon the mask five to six drachms. The effect is rapid and satisfactory for minor operations, but in capital surgery M. Szuman advises against its use.

M. Gilles (Deutsch Monat. für Zahnheitkunde), has used it in more than 450 cases for the extraction of teeth, and commends its employment as being prompt in action and free from danger if properly used.

M. Szuman and M. Gilles both agree that for complete anæsthesia it should not be used drop by drop, but that the mask should be wet with it and placed over the nose and mouth, since the simultaneous inhalation of air diminishes the anæsthetic effects. The quantity used for complete anæsthesia is commonly about three to four drachms. The effect is complete in from one to one and a half minutes, and in children in one-fourth minute. No untoward symptom was noticed during its use.—*Repertoire de Therapeutique.*

Treatment of a Case of Ex-Ophthalmic Goitre.—The treatment is directed to the symptoms mainly. The remedies most used are the bromides and digitalis; digitalis to slow and steady the pulse; the bromides for two reasons: First, as nervous sedatives: Secondly, for their reputed action in producing anæmia of the nerve-centres. In some cases, where there is no cardiac lesion and the pulse is good and strong, aconite with the bromides is of service. Ergot, for its power of contracting the calibre of blood-vessels, is also a rational remedy. There is a difference of opinion as to the propriety of administering iron. I believe the decision should be based on the condition of the patient and the presence or absence of anæmia. By German writers, Galvanism of the sympathetic is claimed to be of service. The English physicians have not been so fortunate in its use. Theoretically it should be of service, and we will try it along with the other measures. A constant current of from five to eight cells is used; the negative pole is places on the fifth cervical vertebra, the positive pole along the sternum. Up to the present our patient has improved under carbonate of iron, two grains at a dose, digitalis and ergot each one-half grain.—*Jour. Amer. Med. Association.*

Dietetic Management of Children.—Rachford formulates the following rules, which will aid very much in selecting a diet when it becomes advisable to discontinue milk temporarily:

1. Avoid albuminous food (*a*) when marked constitutional symptoms are present; (*b*) when in doubt as to the character of the fermentation causing the disease; (*c*) when the stools are putrid; (*d*) when the stools contain mucous and blood; (*e*) when the nausea is constant and not relieved by vomiting.

2. Avoid carbo-hydrates as a food (*a*) when there are no marked constitutional symptoms present, and the stools are continuously acid; (*b*) when there is much flatus, pain, or urticaria.

3. When the albumens are to be avoided, the carbo-hydrates are, as a rule, indicated; and when the carbo-hyhrates are to be avoided, the albumens are, as a rule, indicated.

4. Give foods, such as cream, beef-broths, and whisky (*a*) when the foods prescribed according to the above rules disagree; (*b*) during the first twenty-four hours in severe acute cases; (*c*) when in doubt as to the character of the food indicated.—*Archives of Pediatrics.*

Peritonitis.—Dr. Emory Lanphear concisely sums up the desiderata in the treatment of peritonitis as follows:

The saline cathartic treatment should be adopted early in simple acute peritonitis.

Small doses of calomel may be given to mild purgation in cases seen after the disease is fully developed.

Cases which fail to be relieved by cathartic measures should receive early operative interference.

Whenever peritonitis has gone on to that stage where the formation of pus is known or even suspected to have place, abdominal section and drainage are imperatively indicated.

When the existence of tubercular peritonitis is diagnosticated, or strongly suspected, operation (exploratory incision) is justifiable.

Opium is only indicated in the second stage of peritonitis, and then not because it "forms a splint" but because it relieves pain, sustains the heart, and prevents shock—thus combatting the tendency of death.

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Original Articles.

CHOLERA IS A NEUROSIS; THERAPEUTIC CONSEQUENCES.

BY ALEXANDER HACKIN, M. D., F. R. C. S.*

The word cholera, as we understand it, is a generic term, serving to designate different affections; viz: Cholerine, cholera infantum, summer diarrhœa, sporadic cholera morbus, and Asiatic or epidemic cholera. These affections, generally regarded as distinct, are in our judgment of one character, and, although presenting degrees, they bear the same ætiological relations, are dominated by a common pathological principle, and, consequently, may be subjected to identical treatment.

Moreover, a large number of eminent authors, Indian and European, have given expression to an opinion similar to our own. Orton, cited by Aiken, maintained in 1832 that cholera presents as many diversities of aspect and symptom as scarlet fever, for between serious cases and those of only ordinary intensity, a disparity fully as considerable is to be remarked.

According to Sir James Jayrer, cholera presents phases and symptoms, whose gravity varies from simple *malaise* to profound collapse. It is often stated that epidemic cholera differs from Asiatic cholera. To us, cholera is cholera, whatsoever be its manifestations; its epidemic character, its intensity, are only phases,—accidents of character.

In his communication to the Epidemiological Society of London, Dr. Scriven admits that sporadic and epidemic cholera are of precisely the same nature, just as sporadic small-pox resembles the epidemic type.

Dr. Guérin read before the Academy of Medicine of Paris a note in which he maintains that the distinction made between the different forms of cholera is purely arbitrary, and that this affection exhibits special variations of intensity. Dr. Dutrieux Bey, of Alexandria, regards the distinction made between Asiatic cholera and cholera nostras (sporadic cholera morbus) as purely artificial and arbitrary. In a report on cholera, addressed to the Government of India, Surgeon-Major J. M. Cunningham says: "An isolated case of measles or small-pox, differing from the numerous cases, constitutes an epidemic, and yet these affections, just as with cholera, have their epidemic and dormant phases." The opinion of Petenkoffer that the dejections of persons suffering from cholerine or from diarrhœa, are as capable as those of cholera patients of provoking infection, only confirms the ætiological unity of this disease.

Practical medicine has suffered much from the invasion of new theories, as well as experimental methods. Traditional pathology has given way to experimental pathology, and the spontaneous maladies to those which may be artificially provoked upon the inferior animals. Ætiology has assuredly been much simplified by the discovery of the microbe, but it is very doubtful whether scientific medicine has profited much by these methods; observation has been diverted from the right path of clinical observation and therapeutic experience by the fallacious charms of the germ theory! In most instances, it seems to have caused physicians to forget their mission, to have prevented the relief of the sick, and to have produced misconceptions of the disease.

Time has only confirmed the words of Trichum, when, *apropos* of the cholera bacillus, he adjured the members present, despite the murmurs of some, not to believe that this discovery definitely settled the question, any more than the knowledge of the bacillus of tuberculosis would exterminate pulmonary phthisis (Koch, Grancher, Saint-Martin). However, be the origin of cholera as it may—either miasmatic or bacillary, telluric or meteorological—its neurotic character is most clear.

Cullen, in his Synopsis, has ranged cholera and diarrhœa under the order of neuroses and class of spasms, and Dr. Henry Mac Cormac, whose pupil I was during the cholera epidemic of 1834, at the Belfast Hospital, regarded this affection as provoked by a lesion of the sympathetic system of the abdomen. The results of observations and experiments, made since that time, only serve to confirm my conviction on this point.

Mr. Sedgwick attributes all the phenomena of cholera to the troubles produced in the functions of the centers of the sympathetic system. Delpech has found traces of inflammation of the semi-lunar ganglions in patients who had succumbed to cholera. Dr. Johnson admits that the specific poison acts first on the blood or the intestinal tube, then on certain

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parts of the nervous system, particularly on the sympathetic and the nervous centers. According to Claude Bernard, the coldness and the symptoms of collapse, depend upon a considerable hypertrophy of the sympathetic nervous system.

The influence of the nervous system is accordingly very manifest even in the predominant symptoms, whether subjective or objective. The vomitings, and the numerous stools, evidently are connected with the attack upon the nervous apparatus of the stomach, and of the intestines; the choleric crisis, the cramps, the vertigo, the anxiety, the spasms, the tremblings, have a nervous origin. It is to the vasomotors then, that we must refer the depression of the functions of respiration and circulation, the gravest symptoms of cholera. Proofs of this nervous origin may be found in the rapid deaths due to dry cholera, which are to be observed during certain epidemics, and in which the patients had enjoyed apparently good health; the fatal result being preventable by the use of hydrocyanic acid or the dilute virus of the *Upas antiar*. The prompt cures which we may observe in cases, apparently the most desperate, conflict with the opinion that we have to deal with serious organic affections.

Admitting this idea, it seems natural that Mac Cormac should seek to discover a remedy which exercises a favorable influence on the nervous system and that with Carfisse we should seek, although with out result, a means of acting on the sympathetic nerves without touching the remaining parts of the nervous system.

Later, Claude Bernard published his scientific researches, which threw a new light on the pathology of cholera and the rôle of the sympathetic system in this affection. These investigations permitted the institution of clinical observations and experiments based on this physiological discovery, in order to discover the remedy sought.

Pursuing the idea of Mac Cormac, elucidated by Claude Bernard, it seems to me that we shall find in the antagonism of the pneumogastric nerves the means of checking the action of the sympathetic nerves in cholera. But since 1866 there has been no epidemic of cholera, and I have been forced to test the theory practically in treatment of cases of cholerina, or English cholera. In every case I observed that, by stimulating the pneumogastric in the neck, or by developing its inhibitory power, the vomiting, the stools, and the cramps, were arrested.

The demonstration had not been completed when, during the summer of 1887, a very severe epidemic of cholera broke out at Malta. This mode of treatment was employed with a superiority of results as evident as in the less grave epidemic in which we had used it in England.

The simplicity of the treatment is a high recommendation.

In all attacks of cholera, whatever the stage, it is sufficient to apply with a brush the epispastic liquor of the British Pharmacopœia on the branches of the pneumogastric in the neck, on the mastoids, under the eye, covering three inches of surface. The effect is generally instantaneous; the stools, the cramps, and the vomiting, cease; the pulse regains its power, and the warmth returns; the patient falls asleep, and all the morbid phenomena are annihilated before the vesication is to be seen.

In the crises of cholera, these applications to the vagus seems to paralyze completely the sympathetic nerve in the stomach or the intestines. In general, it is preferable to produce the vesication on the right side, Coleman having demonstrated that the right pneumogastric commands the slender intestine; but, if necessary, the vagus of the left side can be put under contribution. The vagus is an inhibitory nerve and possesses an action antagonistic to that of the sympathetic nerve on the heart. By stimulating the sympathetic part of the heart, its contractions are augmented; but, by acting thus on the vagus, we can determine the arrest of the heart in full diastole.

The stimulation of the vagus gives rise to an important indication; that is, the re-establishment of the cardio-inhibitory functions of this nerve, which are evidently absent in cholera. The violent contractions, and the palpitation of the heart cease; the energy of its cavities, especially of those of the left side, returns; the congestion of the pulmonary and cutaneous systems disappears. Simon and others, have shown that in cholera the left side of the heart is generally empty, whilst the right side is distended and filled with blood. Sieluna and Bruce, performing autopsies on patients who succumbed at Malta during the epidemic of 1887, always observed the cavities of the left heart empty, and those of the right heart filled with blood.

George Budd, in an article published in the Medical Chronicle, vol. XXI, reports concentric hypertrophy in cases of sudden death from cholera. He cites, besides, M. Jackson, who, in a report on cholera in France, in 1832, notices the fact that the hearts of persons who succumbed, often presented hypertrophy of the left ventricle.

This antagonism of the vagus and of the sympathetic nerves was announced to the Society of Biology of Paris, in a communication read by M. d'Arsonval, and which was made a part of the unedited labors of Claude Bernard. It treated of the antagonism of these systems and of the nerves, and compared their

relative actions to that of the tympanic cord and of the salivary glands.

Chirmak the elder, has shown that with the dog the stimulation of the vagus is prevented by the concomitant stimulation of the sympathetic. On the other hand, according to Foster, the injection of the sub-maxillary glands, which follows the stimulation of the tympanic cord, presents a great analogy to the inhibition of the heart provoked by stimulation of the vagus.

From these physiological details, we may readily deduce the mode of treatment which I have proposed. The practical application of admitted physiological and pathological principles, and the discovery of constant relations of cause and effect, suggest the idea of a well-defined law in this affection.

The action of the epispastic liquor has in every case proved sufficient to arrest an attack at the outset, but, as in cholera, every moment is precious, great profit may also be derived from the rapid action of the Galvanic current, and from mitigated cauterization by the Mayor hammer.

According to Prof. Pisani, Chief of the Health Service at Malta, cholera made its appearance in the Island on the 25th of July, 1887, and the mode of treatment, which I have indicated, was employed on the 31st of the following August. In his report addressed to the Government, Pisani remarks that:

In several cases, the amelioration was very rapid, sleep following the stimulation produced either on the right side or on both sides. Particularly in the hospitals at Zabbor, Zeitum, and Manod, did we employ for the same purpose powerful applications of the epispastic liquor to the pneumogastric of the right side, even to both sides, and to that part of its course comprised between the mastoids. The action was marvellous, for the patient at once fell asleep.

Dr. Inglott, Surgeon of the hospital at Zabbor, says:

Dr. Hackin has found a means of acting directly on the sympathetic nerves, sparing the other parts of the nervous system. This consists of the counter-irritation of the vagus. The treatment has been completely successful, and the results of my experiments made at Malta during the last epidemic, concord perfectly with the opinion of Dr. Hackin. It has often succeeded in grave cases where other treatment had proved futile, not only in my hands, but also in those of my friend Dr. Cannatacci, at the hospital of Zeitum. We worked together, and every day exchanged observations on this important subject. Dr Hackin's treatment has often given us astonishing results, and my sincere conviction is that he enabled us to save several patients from death. I recall, amongst other cases observed at the hospital of Zeitum, that of a poor child of eight years, who was so cold that there seemed to be no hope of saving his life. All the internal remedies had proved useless. When I saw him in the morning he was dying; in the afternoon he was convalescing; and all this had been accomplished by profound vesication on the vagus.

I conclude, without hesitation, that the treatment of Dr. Hackin is the best and most prompt which can be applied in all dangerous cases of cholera.

Dr. Cannatacci, in his report on the cases observed by him at the hospital of Zeitum, observes that if this mode of treatment has completely failed in several cases, on the other hand, in the great majority it has yielded results so astonishing as to partake of the miraculous. He cites the cases in which it rendered the greatest service, and concludes: "The treatment of Dr. Hackin is the most useful in Asiatic cholera."

I conclude by citing examples of the action of this mode of treatment in the three principal divisions of cholera:

1. *Cholera Infantum.*—On Sept. 24th, 1884, I was called to Upton-Belfast to attend a child six years old, and arrived at half-past eleven in the morning. I found the child in the arms of its mother, and all its limbs swaying from side to side. He was enfeebled, cold; had vomited and had repeated passages. They told me he had been seized at 6 o'clock in the morning, and had vomited at least every quarter of an hour before my arrival. The mother had given milk and lime-water, without result. I prescribed no medicine, but, after placing the child on its back, applied the vesicant liquid under both eyes and to the neck. At the end of a half-hour the child fell asleep, and slept all night. The next morning, about 10 o'clock, I found the child in its mother's arms, having had no more vomitings or stools.

2. *Cholera Nostras.*—Sept. 18th, 1883, Constable C. called on me at half-past eight to attend Policeman Banack. When I arrived he presented the following phenomena: Vomiting, feeble pulse, violent cramps, palpitation of the heart, great debility, coldness of the extremities, numerous rice-like stools. He told me that on arriving at the police barracks, he had been seized with profuse vomiting, then, after the lapse of a half hour, with numerous stools and cramps. The attacks succeeded each other every quarter hour. I administered no medicine, but applied the epispastic liquor under both eyes, assuring him that none of the symptoms would return. I saw him again at half-past ten; he was convalescing, and had no more passages or attacks of vomiting.

3. *Cholera Asiatic.*—Case related by Dr. Inglott. Malta: Giuseppo Jalt, 42 years, boatman, residing at Nicolo San Francesci Zabbar. This patient had been attending his wife assiduously. She refused the treatment of Dr. Hackin, and died of spasmodic cholera thirty hours after the attack. I was called to attend the husband, for he refused to be taken to the hospital.

One hour after the death of his wife, he presented the following symptoms: Intense diarrhœa, rice-like in appearance, eyes glaucous, lips violet, body cold, voice feeble, pulse slender, respiration anxious, thirst intense, painful cramps in the lower extremities, general debility, urine suppressed.

Treatment.— Injections of ether; profound

vesication applied to the vagus—the two sides and of the neck. Two hours later, I returned to see the patient, who had slept nearly an hour. The cramps had ceased, the pulse had regained its vigor, and the patient urinated readily. I was called again in the afternoon. The patient was still feeble, but in full convalescence. The treatment had acted in a manner fairly miraculous.

These clinical observations require no comment, and it would be useless to dwell on the importance of the rapidity of treatment, in an affection where moments are so precious, or to direct attention to its soothing effects. The sleep which it produces and which succeeds to the most violent suffering, the re-establishment of the balance between circulation and respiration, tend to abort the malady and to oppose a typhic condition or secondary fever.

The happy results, obtained with this topical agent in all the phases of cholerina and Asiatic cholera, confirm the presumption that these two maladies are only pathological phenomena of the same affection, as also the truth of the apothegm of Dr. Petra, of Athens:

The treatment of maladies is a part of their pathology. The nature, the power of the remedy, the modifications which follow its applications, are the surest guarantees of their nature and their tendency.

BELFAST, IRELAND.

THE MOTIVE AND METHOD OF PELVIC SURGERY.

BY JOSEPH PRICE, M. D.

Pelvic surgery must be considered apart from abdominal surgery. It is distinct from it, both in the nature of the lesions dealt with, in the difficulties it presents, and in the complications and embarrassments to routine *technique*.

A little detailed consideration will suffice to explain this point. The drainage of a large suppurating abdominal cyst through the abdominal wall, used to be a common manner of allowing Nature to complete an operation with which the surgeon could not successfully cope by his art. If we look over the records of pelvic surgery of later years, we find that the same method has been tried and recommended in the surgery of pelvic abscesses, etc. Incomplete surgery of this sort, together with its unsuccessful and tedious termination, probably gave rise to the method of attempting to deal with disease of purulent nature in the pelvis by puncture through the vagina. Adhesions that cannot but be barely separated by all the delicately refined force of the skillful finger, are the *bete noir* of the unpracticed, and an easier method of dealing with them is one of the intrenchments of bad work not yet argued out of the field of surgery.

Nowhere, as much as in pelvic surgery, does the distinction between the general surgeon and the specialist stand out so clearly. Pelvic adhesions in appendicitis, for instance, Mr. Treves would deal with by the knife. If this is feasible, why not put the knife to ovarian and tubal abscess, to all intestinal fixation by inflammatory processes, and the like? The very suggestion of such method to the mind of the specialist accustomed to deal with all the complexities of pelvic surgery, is fraught with evil, and this mere suggestion only makes it clear that general surgeons in so far as they are entirely wedded to the knife in removing disease, fall short of the demonstrated harmfulness of its application in pelvic work. A careful observation of the surgery of the grosser abdominal kind serves clearly to show that abdominal surgeons even, especially those of the earlier period, are apt to fall short in the attainments of pelvic surgery, by applying only the methods of abdominal surgery to pelvic disease. The truth of this proposition will become more apparent if it is considered how few, practically, of the elder ovariotomists, have been really successful in dealing with pelvic disease. Pelvic surgery in reality is a much later branch of the art, and needs a separate niche in the records of its accomplishments. The fact, then, that a separate division of the surgery of the general abdominal cavity has been created, is clearly suggestive evidence that the motives and reasons for such surgery are just as clearly defined.

What is it that has differentiated this division from the surgery of the general abdominal cavity? Clearly, first, its pathology. The gross lesions of the ovarian cyst could easily be distinguished, but how many women perished from the concealed misery of a pelvis-bound dermoid! The enormous fibro-cystic tumor of the uterus, in most instances, could be clearly made out, yet what of the innumerable multitudes of those who have fallen victims to hæmatocele, so called; to cellulitis—yet a shroud for mumified imbecility; to pus in the tubes and ovaries; and to peritonitis and childbed fever—all "visitations of Providence?"

The careful observer of clinical manifestations looked for a new pathology in certain diseases of women characterized by them, and the discovery of this newer pathology gave birth to newer modes of treatment, forever to depose poultices and opium—fatal Circe's cup to the patient, though soothing to the surgeon of yore.

From the initiation of this new conception of the cause of some of the general manifestations of disease hitherto obscure, a new *rationale* of procedure arose, and to this we must now look. First of all, successful pelvic surgery cannot hope, unless exceptionally, to deal with pain alone. Pain is a manifestation too general to be dealt with specifically by surgery, unless in the presence of a well-defined lesion. Hence,

just in proportion that an operation is done to relieve a symptom only, just so far will it be likely to be a failure. The exceptions will prove the rule. These are the cases likely to fall into the hands of the electricians, and likely also to return to the hands of the surgeon with a lesion no longer difficult of recovery. The methods of the electrical treatment will tend toward this end. The indiscriminate intra-uterine application, curetting, and the like, all stand on the same ground. Further, just as it is undesirable to operate in the presence of a well-defined lesion, so the motives for operations may be clearly set forth by a well-defined series of indications and conditions, all of them founded upon a real pathology. The existence of general pelvic adhesions, by which the intestinal viscera are tied fast to the uterine system, whereby all the functions of both systems are interfered with, constitutes one of the most annoying indications, for the relief of which there is often urgent necessity. Here we are opposed by the "cellulitis" doctrine, and the electrical panacea, and taught to "melt" down adhesions like snow before the sun, and other poetic metaphors useless as music, which nowhere else than in fable can subdue savagery—nowhere but in fable will adhesions melt away. A number of years ago there appeared in the Transactions of the American Gynæcological Society, a lengthy consideration of alleged cures of ovarian cysts by electricity. Many years before there appeared learned discussions on Perkins' tractors, and Berkeley's tar water. The electricians yet talk learnedly of the undetermined place of electricity in the treatment of ovarian cysts, but tar water and tractors have gone to their long rest. The time must soon come when the claims made for electricity as an universal panacea must be exploded, and its real, limited and narrow, horizon of usefulness will be well defined. The pernicious effect of so-called cures of reported complicated diseases, adhesions, inflammations, and the like, by men without training, who look only at the amperemeter while they adjust a clay pad or introduce a Galvanic sound, is not to be overestimated. I have repeatedly shown, by exhibited specimens, the fallacy of the claims of exact diagnosis made by these men, and such arguments are irrefutable; claims are nothing when refuted by facts. I believe that the only position assumed by the electricians that has the slightest foundation in fact is, that electricity will sometimes control hæmorrhage and relieve pain. That it cures either is not proven. I expect that this expression of opinion in regard to electricity will be construed as an admission of the efficacy of that mode of treatment.

Now, apart from the general adhesions referred to above, there is a class of diseases separate in itself and often indistinguishable as a gross lesion, which must be considered though territorially small. I refer to fimbrial occlusion. Here is a condition which,—in protracted suffering not yielding to well-directed non-meddlesome treatment,—exploratory incision may often reveal. It is obvious that the electricity of all the dynamos and batteries in existence cannot break up and negative the pathological effects of such lesions as these. The adhesions are as strong as the tube itself. We all know that we may as soon expect to melt them away, as to melt the adhesive, constricting bands.

We have in this condition a corresponding one of complete sterility, lancinating pain and general discomfort, and where must we find relief unless in the removal of the offending lesion! Electricity, we are encouraged to believe will make each fimbrial adhesion to soften as wax before its genial flow, free each part and fibre of adherent fimbriæ, and envelop the the egg-producing ovary with the nursing fold of a restored fimbria. Any one who examines such specimens must honestly decide it is all a delusion and a lie.

Not long since I received a letter from a well-known advocate of electricity and conservatism, flattering in its approval of my results, and coinciding for the most part with all my expressed opinions concerning the treatment of diseases of the kind here discussed, but begging a place for electricity, because "there must be a place for those men who cannot get results by surgery." Is such a position fair; is it honest; is it scientific? The argument is all the stronger, recollect, because the name of this man is prominently quoted in all electrical discussions, as a writer of a book and as an authority.

The newer pelvic surgery attempts to relieve chronic displacements of the uterus by gentle means, not forcible. It recognizes the danger of forcible interference with the sound, and when it reads the records of violent inflammations set up, of deaths by hæmorrhage from such interferences, it agrees that it is a condition, not a theory, that confronts us, and rather resorts to direct surgery to restore a displaced uterus than to force out of adhesions by breaking what it cannot afterward control. The lessons learned by surgery of this sort teach us that uterine displacements not only involve the uterus, but are complicated by adhesions of every variety, tubal, ovarian, appendicical, intestinal, and that these cannot be carelessly or forcibly dealt with, unless they are put directly under the eye of the operator and their complication thereby under control. The modern latter day pelvic surgery recognizes the undiscovered frequency of extra-uterine pregnancy; it sees in it a lesion deadly from its inception until its end. It recognizes and proves, not theoretically but practically, that all its multi-

tudinous complications can be dealt with in no other way than surgically, and has fought its way up to what must be the universal abandonment of all other theoretic modes of treatment.

It shows the vicious position to all progress and real surgery, assumed by pseudo-surgeons who pose as innovators without knowledge, either first- or second-handed, who prate learnedly of morality and infanticide, who urge the claims of an impossible fœtus against the life of the mother of the family. For a monumental record of ignorance such as this, there is no excuse. Its effects are more vicious in surgery than is the "Kreutzer Sonata" to family morals. Reputable journalism should banish such sensation-mongers from its columns. I might thus continue along the various paths of pelvic surgery, showing at each step that the motives of its art are preservative, logical and honest; that it deals with disease as it is found, not as it is imagined; that it takes the short road and the least painful to establish a cure; that it would remove an offending useless body or organ rather than tolerate it as a perpetual menace to the remaining economy. With such an aim, its utility cannot be questioned; its honesty is determined, its permanency assured.

Let us consider for a little now its methods. These have for their insignia, directness, simplicity, regularity, varied according to the variations of individual cases. It frees all operation from the nature of a mere exhibition, and while it would admit observers, it does so to teach, not to hippodrome. It places each observer at the vantage-point of an intellectual spy, and gives him an insight into both the abuses of useless surgery and the pretenses of palliation.

The step of each operation after incision can only be determined by exploration. Primarily, in pelvic diseases, adhesions are likely first to demand attention. These may be localized or general. It is first to be remembered that there are some cases so complicated by adhesions, that they must be abandoned as exploratory only; these are in the main, I believe, malignant, and are apt to be rendered distinctly worse by prolonged electrical treatment; this has been observed in many of my own cases. This point should be a matter of direct investigation in every case that comes to us for operation.

In dealing with adhesions, the first point to be sought after is to find a crease or crevice, into which some progress can be made. This is a matter often of the keenest difficulty; many cases which appear utterly unassailable, will by perseverence yield to well-directed effort, and from that time on the enucleation of the mass be comparatively easy. It is to be remembered that violence is not to be attempted. Sufficient force to accomplish the separation of adhesions, if it be violent, cannot be other than harmful. I cannot better express it, or explain it, than by saying that the force should be as a gentle momentum, not as a velocity and momentum. In separating intestinal adhesions, they should be broken as far from the bowel as possible; the farther away the less liable will they be to bleed, and the absence of hæmorrhage is the great comfort in these cases.

The strings of adhesions may be dealt with according to their size, it sometimes being best to remove them, at others there is no necessity therefor. In doubtful cases their removal is the better surgery. All bowel adhesions should be carefully examined after their separation, as by so doing, fæcal fistulæ will often be avoided by the careful placing of an intestinal suture. Hence it is apparent that no pelvic surgery should be attempted, until the operator is competent to deal with intestinal wounds, even to resection and anastomosis. Once the adherent mass is removed, the ligature should be applied close up to the cornu uteri; it should not be so heavy as to resist knotting, nor so light as to break easily. The ordinary surgical knot is the safest of all knots with which to tie the pedicle. It constricts more evenly and certainly, and will slip less readily. The leaving of a sufficient button is of the greatest importance to prevent slipping of the ligature. In dealing with all abscess cavities, or pus in any shape, all *debris* should be cleaned out, by scraping if necessary, and careful drenching of the pelvis and its recesses practiced. The procedure itself will be a comfort in doubtful cases, since it is the best of all methods with which to relieve shock, and cannot possibly do harm There is nothing doubtful or theoretical in this advice; I use it constantly in cases so ill that the ether is taken away almost as soon as the incision is made, and its effect is marvelous. In the use of drainage it is best to err on the safe side, and I prefer to place a drain in a doubtful case.

In the treatment of extra-uterine pregnancy, my urgent advice is, to operate without delay when the symptoms point to the disease, with the assurance that delay will only complicate matters and sacrifice the life of the mother. I have now so often proven the correctness of this position, both in my own cases and those of others, that I shall not dwell on it here. Drainage in these cases is to be followed out as a routine procedure, unless in unruptured tubal pregnancy, which, if it is found, is a matter of congratulation both for mother, and surgeon, and family. In the treatment of appendicitis, I urge all to accept the teaching of pelvic surgery, as reinforced by scientific pathology. Remember that this lesion is to be considered as the real presence of a foreign body, and that its removal is just as much called for as is that

of a calculus from the urinary or gall bladder. That there are perityphlitic abscesses, is no argument against the fact that they are rare and the exception. These cases are often to be treated, on account of delay, by simple incision and drainage, but where it is possible the appendix is to be removed.

I have thus endeavored, briefly, to bring up the salient points of pelvic surgery in the light of its most recent successes and conflicts. I have endeavored to show that its field is not one of experiment or palliation; that it strives in all cases to remove the offending body in order to conserve the rest of the economy; that its tenets are founded on philosophy and fact, not fiction; and that its worth lies in its proven results.

It has reached a standard not to be measured by tyros and dabblers, without instinct of the art, and without energy to train for that of all things so difficult to attain, the conception of the limitation of all art so as to comply with the limitation of Nature and natural laws. The surgery that plucks out the eye or casts aside the limb to save the eye, or the limb, or the life, is greater, better, and wiser, than a sentiment that preserves a shell to enclose a ruin.

PHILADELPHIA, Pa.

THE TREATMENT OF PLEURAL EFFUSIONS.

BY WILLIAM PEPPER, M. D.*

When pleural effusion occurs in the course of some general disease or in the disease of some distant organ, there is no reason why it should not be dealt with as an ordinary hydro-thorax. Should it occur in cardiac or renal disease, the same mechanical complications exist, which require just as imperatively interferative relief. If the effusion is excessive, do not hesitate to aspirate. Probably it will return; but keep on aspirating; and you may be compelled to perform it twenty, thirty, or forty times. It may happen that on the first removal of the pleural contents there will be no return of the effusion, or during the repeated removals the general system may be so placed under control that the general effusion disappears, and with it the hydro-thorax.

In organic heart disease, where dyspnœa already exists, the excessive pressure of the enlarged heart may produce a pleural effusion, which of course increases the already existing symptoms; so that when a case of heart trouble grows worse or does not satisfactorily improve under judicious treatment, do not forget to examine the chest for an effusion.

In hydro-thorax due to the slightly altered condition of the serous membrane of the pleura, the use of some alterative sedative diuretic, is often of service—such a combination as calomel, digitalis, squill and opium, answers the purpose; another powerful combination capable of great absorbent power is, potassium iodide, bichloride of mercury, and sweet spirit of nitre;—increase the dose of this combination if it is well borne by the stomach. If there has been but slight change in the character of the serous membrane and no kidney trouble exists, blistering can be employed. Again, saline purges are serviceable in creating in the system a demand for liquids, a generic exosmosis; given in saturated solution, with a dry diet, they can work wonders, frequently. If the stomach bears them well, and after one or two trials the level of the line of effusion falls, persevere in their use, even if there has been only slight response. When eliminative treatment fails, then the propriety of tapping and withdrawing its abnormal contents can be studied; when the trouble did not originate in the inflammatory processes, there is not so much objection to tapping. Again, in serous effusions, even if limited in area, we are apt to find they are obstinate. When they are circumscribed it shows that the pleura is adherent around the spot, and the room for absorption is limited; there is apt to be a pocket existing in which the liquid rests; and the material itself is liable to be sticky and tenacious. Removal of eight or twelve ounces of pleural effusion often causes the condition to clear up remarkably; and it is wonderful what an amount of disturbance such a small quantity of liquid can produce. These good results do not usually stop at the mere removal of the effusion, as there is often subsequent absorption of the pleural thickening.

Aspiration in itself is one of the simplest of operations. There are but few points to be looked out for. If the patient begins to cough —at first a little dry cough, then a spasmodic effort—it is a sign that the lung is bound down too firmly to expand readily. This demands immediate withdrawal of the trocar; the operation may, however, again be performed in a few days or weeks. If this warning cough is ignored, one of two things may happen: First, after the operation, a profuse expectoration, slightly ropy, frothy, and albuminous, may pour from the bronchial tubes in large quantities; I think this is a sign that the withdrawal of fluid has been carried beyond the limits of propriety, although there is no actual danger connected with the phenomena; the intense tension on the vessels of the bronchial mucous membrane is the disturbing factor producing this flow. The second condition is the sudden onset of death; the excessive aspiration has been the cause of disturbance to the heart and great blood-vessels. I have performed this operation between 1100 and 1200 times and have never produced this result, solely I believe,

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because I stop at the first sign of slight cough or a sense of constriction around the heart.

If the patient has had explained to him beforehand the *modus operandi*, he knows what to expect, and hence it is rare that ice, or ice and salt, or a spray of rhigolen, is needed to produce any local anæsthesia. The simple dressing of adhesive plaster is all that is required subsequently.

When the effusion is purulent, it is rare that we feel quite sure of the fact from the physical signs, from the history of the case, and from the general symptoms. As a rule, it is better to make an exploratory puncture with the hypodermic needle previous to formulating a positive diagnosis. If pus is present, although in the smallest amount, it is sure to produce serious trouble, causing local and constitutional disturbance. It must be removed at once, and it is astonishing what speedy results follow the removal of even only two or three ounces. I remember a case which had been diagnosed as tubercular consolidation, accompanied with emaciation, expectoration, and considerable cough, given up to die. This case after the aspiration of a small sac of pus alongside of the aorta, recovered with wonderful rapidity. In very small collections of pus one opening of the wall may be sufficient, the walls closing on the withdrawal of the fluid; but as a rule it is folly to expect, in large empyemas, either free or circumscribed, that one tapping will do; hence drainage must be established. I do not regard the effusion as the disease; it is more important that the compressed lung should expand, and the morbid condition of the pleura be relieved, than that the fluid should be drawn off rapidly; hence deal gently with the chest and try a slow drawing off of the effusion. I do not like the incising of the pleura as it admits of the entrance of air; still less do I like exsection of the ribs unless under the conditions of which I will speak later; I believe in the simpler, more old-fashioned methods of treatment. I should withdraw at the first time a pint or a pint and a half, then allow the patient a few days to recover tone and get some good sleep. Then I should allow more pus to escape. Through the canula I should then insert a soft rubber tube, say twelve inches in length. On carefully withdrawing the canula, the tissues close around the tube and no more pus escapes that day. A little pus will well out from time to time, and the irritation of the tube will produce a callous fistula at the point of exit in which it will ride easily. The discharge can be caught in oakum, antiseptic cotton, or rubber sheeting. Gradually the tube can be withdrawn, pieces being cut off and kept; this is to determine how much of the tube still remains behind in the chest, and make the accidental withdrawal less likely. It will often happen, especially in children, that the lung will follow the retreating exudation and a healthy normal condition of the parts be left. Another way of performing aspiration is to throw a needle around a rib, running it in above and bringing it out below. This needle has a large eye which is threaded with a stout thread that carries a rubber tube with it. In this way drainage may also be accomplished.

Sometime the lung refuses to expand; air takes the place of the fluid and a pneumothorax is formed. In the adult the thorax cannot sink in, and in this case re-section of the rib is required, breaking the bony arch of the chest. Again, when the discharge is small and offensive, injections of some weak antiseptics, not injurious to the economy, can be employed; but carbolic acid (unless in very weak solution) should not be employed, and bichloride *not at all*. Iodine, permanganate of potassium, and chlorinated soda, are better and safer, but it is best to avoid anything of the kind as long as possible.

When it is believed that phthisis exists, it is better treatment to leave the pleura alone if possible. It is not a bad thing to have compression of the lung in tubercular involvement, as it tends to limit the progress of the trouble and define its boundaries. Often, when the pleura is full of pus, it will force a fistulous opening into the lung, in which case one must be governed by the extent to which the cavity is emptied by expectoration. When it is discharging freely, the fistulous opening being low down, the lung expands more and more against this pyo-pneumo-thorax; then it is better, considerably, in the presence of tubercular trouble, to leave the condition of things as they stand. If the fistula is high up in the pleura, discharges will escape with less freedom, hence here drainage should be established.

It is better to attempt to correct the contracted deformed contour of the chest left by these processes by the use of respiratory gymnastics, calisthenics, and the progress brought about by the course of time. The careful use of compressed air, especially in children, hastens the expansive power of the lungs and restores the contour of the chest more quickly.

Finally, the treatment of pneumo-thorax, which is generally pyo-pneumo-thorax, presents itself. It should be largely stimulating to the heart and nutritive to the general system. It is useless to aspirate when air comes in to supply the material which you draw off; the only time when it is expedient to perform this operation is when the physical signs show that the opening to the lung has closed. Then the aspiration of the gaseous contents of the pleura is followed by the same relief as in other cases, and the gas will not again accumulate.

PHILADELPHIA, PA.

FRACTURE AT ELBOW JOINT, WITH CASES.*

BY ANDREW BOYD, M. D.

Nothing can be more gratifying to the surgeon than the skillful management and good results of his treatment in all fractures, and more especially those at the elbow; and nothing can be more discouraging than a bad result. A dead monument is bad enough, but a walking one is much worse. In all other departments, kind Nature, with her mysterious hand, is prone to cover up and bridge over the bad work of the unskillful, but in this, she makes the light more glaring, and the eye more clear. We cannot miss our diagnosis and treatment here, and leave Nature to work out the success; the surgeon and Nature are compelled to be co-partners.

I believe now that after reduction there are but two methods of treatment of fracture at elbow joints; the extended or straight, and the flexed position. My cases will represent both methods; small though they may be, they will show as far as they go, which is right and which is wrong. During a year's residence in the City Hospital at Baltimore, I never saw a fracture at elbow treated save in the flexed position, and I remember in this Hospital, success was the rule in all cases.

For a person that has ideas engrafted into him from experience, and by those in whom he has confidence, it is difficult to change those ideas, but if it can be shown by the members of this body that another way is better than the one I adopted, I will gladly accept it.

I will now proceed to give you the cases as they occurred, and as reported by me at a meeting of our county society.

CASE 1.—Frank H., aged 7, July 10th, 1889. On day before, 9th inst., while riding a horse, fell off backward, left arm extended, falling on hand. When I saw him, twenty hours after accident, I found the left elbow very much swollen and ecchymosed; no crepitation; fixed pain at the elbow; the limb helpless. On account of great swelling I could not make out the deformity, but could find the four points about the joints, the two condyles, olecranon process, and the head of radius, which showed no dislocation. I first thought I had one of the rare fractures of the coracoid process, but on further examination found that in forced flexion the pain was greatly increased and that he was unable to flex or pronate arm at all.

My attention was then directed to the internal condyle, and I found here a separation. I reduced it, and flexed the arm less than a right angle, and pronated until the back of the hand was uppermost; this relaxed the flexors and pronator radii teres. I put the arm up in a common padded pasteboard splint molded to the arm, the splint being less than a right angle and extending three inches below the axilla to the finger tips. Seven days afterwards saw him again; swelling and ecchymosis nearly gone; little pain and little deformity; did not disturb the position of the arm, but put up in a liquid glass apparatus, allowing it to remain fifteen days, making 22 days from the time of the injury; took this off, found some little deformity, but more from callus; arm and forearm atrophied some; could flex to sixty-five degrees, and extend to a hundred and thirty-five. Used passive motion, and the next day presented him with a whip and told him to pop it loud and long with the left hand. He has a perfect elbow to-day, with very slight deformity; but what does this latter amount to as compared with anchylosis? He has complete flexion and 175 degrees extension.

CASE 2.—Lem C., age 32; on night of November 18th thrown from a horse falling on right arm in forced extension; saw him fifteen hours after injury; found the right elbow very much swollen and ecchymosed, fixed pain in joint, forearm at right angles (or nearly so) with arm, and immovable; olecranon process very prominent and tilted backward about an inch, with a corresponding depression in front; condyles could not be found. The diagnosis was, a backward dislocation of ulna. He was very nervous, with a temperature of 101.5°. I gave him half a grain of morphia hypodermically and reduced the dislocation with little trouble. In this manipulation I found crepitation and a fixed pain over the internal condyle; after reducing the dislocation, he had little use of the arm; he could neither flex nor pronate it; pronation gave him great pain. I found he had also a fracture of the internal condyle; put the fracture in best apposition possible, and put arm in a right angle paste-board splint, forearm midway between pronation and supination; twelve days afterward took this temporary splint off; ecchymosis and swelling still present; did not disturb position whatever, and put it up in liquid glass; this was allowed to remain fourteen days.

Twenty-six days from time of injury, the dressing had caused no disturbance, and the following condition was found on its removal: There was considerable thickening on and about the inner aspect of the elbow; this obscured accurate examination of bony parts. The circumference of arm at its middle was one and one-half inches smaller; at the forearm half an inch smaller; at the elbow one inch larger on the affected side than at same point about its fellow.

The patient could flex arm to 75 degrees and extend to 135 degrees, and pronate and supinate slightly; movement at joint caused no pain. He was directed to use passive motion constantly through the day, and at night to employ massage and poultice. Thirty days after removal of splint, patient could completely flex arm and extend to 165 degrees; pronation and supination improved accordingly. Six months afterwards, no deformity only on close inspection; circumference at elbow and at arm and forearm very little difference. Complete flexion, and 185 degrees extension; little interference wich pronation.

These are two cases treated in the flexed position, and the results are very gratifying to

*Read before the Tri-State Medical Association at Chatanooga, Tenn., Oct. 16th, 1890.

me as well as to the patients. In either case, no one would suspect from any movement they had had a fracture at elbow joint.

Dr. Allice, in a paper read before the New Jersey State Association, extolled the extended position as the treatment in all fractures at elbow joint, and stated that Professors Gross, Agnew, and Packard, had adopted this plan, and so taught in their classes, but I cannot find in their text-books. The only reason he gives that has any weight, it seems to me, and upon which he lays the most stress, is the deformity found after treatment in the flexed position, which he says you do not have after the extended. This may be true; but how much better to have a little deformity than a straight anchylosed arm! And then we in either case run a risk of anchylosis, and how much better to have a flexed one than a straight one.

I shall now report a case which I saw in consultation fifteen days after the receipt of injury.

CASE 3.—Grider D., aged 12, male; March, 15th, 1890, horse ran away and threw him against a tree, producing a fracture of femur in the upper third, and in falling he struck on hand, the arm being in forced extension, producing fracture of the internal condyle without dislocation. The fracture was reduced by Dr. D. and limb put up in straight splint. Fifteen days afterward this is the condition I found: Arm at middle ¾ inch smaller, forearm at middle ½ inch smaller, the inner aspect of elbow thickened and ecchymosed, and one and one-fourth inches larger than fellow. Under an anæsthetic I could not flex the arm five degrees. The little fellow had already received a great shock from the re-setting of the femur, but I advised the breaking up of the adhesions and putting the arm at right angles, but the family, and the Doctor, (a brother of the patient) objected. We put the arm up in a starch bandage and left it to Nature, and at the end of twenty days found she had done as she always does in such cases—nothing, but to show us up in the glaring light of negligence, and give a walking monument to point the finger of scorn at us in years to come. To-day that boy has a beautiful elbow,—oh yes, it could adorn the ball-room dress of a beautiful young lady with "low neck and short sleeves;" but the movement of flexion and extension, which some day he will sorely miss when compelled to earn his bread by hard strokes, is gone. He has also some pronation and supination; but how little is the use belonging to the straight stick it variety!

I have now given the three cases as they occurred; small as they may be, they show their value *pro* and *con*. To summarize the rational reasons why I think the flexed position is best:

First.—In all cases we fear anchylosis, and it is much better to have a flexed anchylosed arm than a straight one—the comparative use of each is apparent.

Second.—When the splints have remained twenty-five to thirty days, the arm is atrophied and almost helpless; it is here more easy to overcome flexor muscles than extensors, and a patient can with more ease extend an arm than flex it.

I can see but one good result that can be obtained in the extended position over the flexed, and that is less deformity; but how small this is, compared with the good and useful results obtained in the flexed position.

The true intent of surgery is not to beautify and mold for Cupid's eye at the expense of usefulness.

SCOTTSBORO, ALABAMA.

THE METRIC SYSTEM.

BY H. M. WHELPLEY, M.D., PH.G.

It is probable that in less than two years the seventh decennial revision of the Pharmacopœia of the United States of America will be in the market, and the doctors who are alive to the interests of the times will look to this Pharmacopœia for all information that it contains for physicians.

Among the new features of the revised work will be the adoption of the metric system of weights and measures in the manufacture of preparations. The system of "parts" in the previous revision was more conveniently handled by the metric system than any other, but the new work will have the decimal system itself prescribed.

There seems to be some misunderstanding as to just what it means to thus adopt the metric system. Some have formed the idea that doctors will then be obliged to write prescriptions in that system. Let such persons learn, once for all, that the Pharmacopœia is not a guide in prescription writing, or dosing. Still less excusable is the complaint that it will cause to throw away old scales and buy new ones; only those ignorant of the first principles of weights and measures could stumble into such a shallow error. Again, some have objected on the ground it is necessary to "learn a new language for the sake of it." When it is realized that the words "milligramme," "gramme," "cubic centimetre," "kilo," and "litre," are all the doctor need learn, it is strange that any one should for a moment object to the system on the score of language; all that is necessary is as follows:

1,000 milligrammes make 1 gramme; 1,000 grammes or cubic centimetres make 1 kilo or litre; 1,000 kilos make 1 ton; 65 milligrammes make 1 grain; 15½ grains make 1 gramme; 31 grammes make 1 ounce troy.

I advise those who object to the metric system to devote a few minutes to its study before they continue to condemn it.

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The Medical Age.

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B. W. PALMER, A. M., M. D., Editor.

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Editorial.

A NOTABLE DISCOVERY IN ALIMENTATION.

Alimentation in disease is still somewhat of a vexed problem. If the cause of each individual case of phthisis could be traced, there is little doubt the malady would be proven primarily due to improper or insufficient alimentation. At the same time, the problem in treatment is to secure sufficient force through properly directed nutriment to sustain the economy, and to aid Nature in her combat with the morbific elements, until the victory is won. The same is in no inconsiderable degree true of febrile and wasting diseases, and the acute states arising from specific and systemic poisoning. It must be remembered that it is lack of vital force that constitutes so-called "predisposing diathesis" since no germ can obtain lodgment, much less multiply, in soil uncongenial to its sustenance and propagation.

Practical therapeutics has suffered in no small degree by the invasion of new theories as well as experimental methods, whereby traditional and practical pathology has given way to experimental pathology, and spontaneous maladies to those which may be artificially provoked in the inferior animals. Ætiology, to be sure, has been much simplified by the discovery of specific organisms, but it is very doubtful whether scientific therapeutics is the gainer, since observation has been diverted from its true quest, that of clinical study and therapeutic experience, by the fallacious claims of the germ theory. In most instances it seems to have led the physician to forget his mission, to have prevented the relief due the ill, and to have produced misconception of disease. The rôle of scientific medicine is not to juggle with microbes, to the neglect of the possibilities ever present—as many seem to think—but to assist Nature in restoring the normal balance of waste and repair. And here is applicable the doctrine of restoration and conservation of force, which can be carried out, only by supplying to the economy the needed proportions of nitrogen and carbon; the former to replace that which is constantly being excreted as effete matter, the latter to afford fuel for the combustion whereby the endeavor is made to destroy the invading morbid factor. Manifestly, then, any form of therapeutics that has not for its primary object the restoration and renewal of force in consonance with waste and demand, and conservation of existing force, as well as the neutralization and elimination of morbific elements, is as unscientific as it is illogical,

It was recognition of this fact that led to the advocacy of forced alimentation, a procedure that under the title of *gavage*, largely obtains in foreign hospitals. It was the same that led Dr. Frederick I. Knight, before the recent session of the Climatological Association, to exclaim: "At present the usual preparation of food is so bad that after one has found out the class of nutriment a patient requires, it is well nigh impossible to secure it to him."

As already remarked, the nitrogeno-carbonaceous aliments are the most nearly ideal. In seeking among substances of this class for the most suitable, two alone are found to meet in anything like just proportion the requirement, viz., the product of the animal udder, and animal muscular fibre. Milk presents, perhaps the best graduated proportions, but unfortunately, in spite of theoretical demonstrations of utility, its digestion is somewhat complex, requiring—as its persistent advocates seem to forget—the coöperation of certain alimentary secretions that are too often in abeyance, perhaps wholly lacking, when it is transformed into an irritating and unassimilable mass; further it is a varying and variable product at all times, even as obtained from a single animal, and especially apt to become repugnant to the convalescent; the conservation of the force expended during, and by, a milk diet, oftentimes represents no inconsiderable percentage of vitality.

Of animal fibres, beef is generally accepted as the best. Beef "teas" and "essences" were long held as standard, and it is only recently that the fallacy thereof has been exploded, though the value of beef fibre, *per se*, is still universally admitted. With a view of rendering it more easily assimilable, and of extracting therefrom the greatest amount of available nourishment, raw beef, minced and powdered, has been suggested, and its merits extolled, especially in connection with gavage. But even with such aliment there are serious drawbacks: First, the danger of bringing within the organism certain intestinal parasites: Second, the fact that of 100 parts of beef but 21.39 represent nourishing constituents, and even of these, one-half nearly, and sometimes more, are wasted as excretion: Third, the cases wherein such nutriment is theoretically of greatest value, are those in which the secretions are "locked up"—a crude mode of giving expression to the

fact they have been diverted elsewhere to serve as fuel in the evolution of force. Obviously also, it is folly to attempt to force digestion with a view to creating assimilation, as the work in any event can be but imperfectly performed, since the already weakened digestive functions must be taxed beyond their normal (existing) vitality.—It is a well understood axiom that the over-taxing of a function, is to deprive it of a portion of its reserve vitality or power. Thus, Debove, Yvon, Weiss, Dujardin-Beaumetz, and others, advocate gavage solely from the standpoint of food supply, ignoring the possibilities of function in relation to assimilation, apparently in the hope that Nature—who is always elastic in her methods—may in this, as in many other instances, provide an unknown way out of the dilemma. In fact, gavage affords few good results, even when powdered beef is injested, since the amount of nourishment available is but that of ordinary meat fibre, *minus* a depleted digestive power and function, including the evolution of force necessary to remove the superfluous (unassimilable) portions of the ailment.

One resource, however, remains, viz.: The conservation of force by compensation; in other words, advantage must be taken of the fact that aliment may be partially predigested, or, as Fothergill pleasantly expresses, we must "help the lame dog over the stile."

There still exists in many quarters considerable prejudice regarding predigested foods that, for the most part, is gratuitous. Not a little of this arises from the fact the ferments employed are of somewhat unsavory animal origin, and popularly held to be the products of a form of decomposition; moreover, the given assimilability is obtained at the expense of palatability, a matter of no small moment to the invalid stomach. Recent researches have, however, demonstrated that certain vegetable forms, notably of the class Bromeliaceæ; yield ferments of like physiological value and activity with those derived from the porcine viscus, and to which no exception can be taken even by the most fastidious, save on the score of bitterness. Finally, even this has been overcome through the exertions of a well known Venezuelan chemist, Señor Vincenté Marcano, who discovered ferment in palatable form in the pine apple. Latterly Sr. Marcano has succeeded in utilizing this ferment in connection with beef in a way to dispose of all objections, and at the same time practically increase the food value of muscular fibre nearly eight times, while its assimilability is still greater enhanced.

The practical value of this discovery as related to therapeutico-economics and dynamics, can scarcely be overestimated, since by it hitherto unassimilable products of animal tissue food—those nitrogenous elements usually excreted as waste, often in the form of insoluble urea—are rendered available, whereby a minimal digestive power may be made to secure a maximum transformation into vital force. Or, to be more explicit, by the treatment of beef or other animal fibre whereby it is transformed into albumose and peptone—the latter a dialyzable substance—and the addition of the ferment of the pine apple, an attractive and palatable product is secured, that is *absorbable* as well as assimilable, and in the highest possible degree, even in the presence of a minimal digestive activity, while its nutritive value—power of increasing force—is from six to eight times increased.

The manufacture of "Beef Meal" by the Marcano process has recently been undertaken upon a considerable scale by the Mosquera-Julia Food Company, organized for this express purpose; and Messrs. Parke, Davis & Co., of Detroit and New York, with commendable enterprise have secured the sole agency of the product for the United States. A late production of the "Meal," on being subjected to critical analysis, evoked the fact its therapeutical and alimentary value is beyond cavil, as it exhibits a total of nutriment available for the production of force (proteid or albuminoid matter) of nearly 80 per cent., of which one-half is absorbable or dialyzable, and the remainder—insoluble as found in the product *per se*—becomes freely so in the presence of gastic and pancreatic juices. A average beef represents but 21.39 per cent. of proteid or albuminoid matter, of which only about one-half as ordinarily ingested is available for the production of force—the balance being excreted as waste—the relative value as compared with "Beef Meal" is, in round numbers, as *eleven* to *eighty*, respectively. Allowing for possible variation in product, the latter may be moderately estimated as at least six times the value of ordinary beef. Add to this the fact that "Beef Meal" may be added in any and all proportions to assimilable carbohydrate preparations, without in the least inhibiting their value, and it must be acknowledged that we have at last obtained the real as well as the ideal in alimentation, whether natural or forced. To gavage it gives possibilities hitherto unattainable either in fact or theory.

"EXIT TUBERCULOSIS."

Such is the cry of the ignorant and charlatanistic under the stimulation of Koch's recent announcements. That no inconsiderable proportion of the medical profession follow in their wake is to be expected, since medicine, like every other profession, has its due share of followers who, too idle or ignorant to think for themselves, are ready to grasp at any straw wafted them by the wind.

That tuberculosis is a fell disease is admitted, but that it is as universally fatal as generally believed is open to question. Nevertheless its ravages are such that any promise new or novel in therapeutics, is always heralded with undiminished delight. Dr. Koch announced at the Berlin Congress he thought he held the clew to a new, valuable, and possibly certain, remedial agent, but declined to give any satisfactory explanation thereof. Ever since, the lay press have been publishing sensationalisms *ad nauseam*, that in some instances have been echoed by certain medical publications, though the majority, especially those bitten by the Pasteur and Bergeon crazes, are strictly conservative. Just now Koch has again spoken, and the newspapers again seized upon the theme. A letter addressed to the Deutsche Medicinische Wochenschrift has been paraphrased, magnified, and every way distorted by the representatives of so-called "enterprising journalism." The Medical News, in the hope of securing something tangible, went to the expense of having cabled a translation of the article which was given its patrons as an "Extra Edition;" but it proves wholly disappointing, in that the readers are left as much in the dark as before, being given merely a more detailed reiteration of expectations aroused at the session of the Tenth International Congress. A quasi-scientific hash, the real purport of which it would puzzle the wisest to unravel, it is Hamlet with the Prince of Denmark left out; a tragedy that by its treatment becomes a farce.

It must be admitted, that for an investigator of his standing, Dr. Koch has adopted a somewhat dubious, not to say misleading line of action in regard to his assumed discovery, one that smacks very much of Pasteur and the Laboratorié du Rage; we cannot forget that the phylloxera remedy, anthrax cure, and rabic inoculations, were promised as certain eradicators of these evils, yet their ravages stand undiminished—on the contrary in many instances have been enhanced.

Te only thing new yet claimed is that metallic salts are used in the preparation of a "lymph"—a word that in this relation involves a curious contradiction—that can be obtained only by a long and extremely difficult process, involving great cost, etc., which leads to the surmise Dr. Koch may have been bitten by the "patent" craze that is now so manifest in Germany, and be bidding for the sale of his secret. A certainly discreditable feature, is the fact certain medical men are supplied with the "lymph" at a round figure, and that the latter demand extortionate fees for its use, while the supply is deficient in the wards of hospitals where Koch's experiments are being conducted. Unless a money making and patent scheme, why is this, and why so much secrecy! Surely no one would wish to in the least detract from Koch's laurels, or from any credit that honestly may be his due. Nevertheless we are loath to believe that Robert Koch, who has done so much for science, and especially for medical science, has stooped to charlatanism: we know that he has been grossly misrepresented by the papers; and hence we are inclined to view his announcement rather as evidence of the weakness that is apt to overtake all men at least once during life.

If the cablegrams to the Associated Press are to be believed, Dr. Koch already repents his premature publication and utterances, and excuses himself on the plea of being urged thereto by certain of his colleagues. From the same source we learn that the value of the "lymph" is not only widely discredited in Europe, but that it has not proven satisfactory even in Berlin; Profs. Stellwag, Fraentzel, Runkuritz, and a number of other experts, German, Austrian, and English, give utterance to the opinion that the injections do not influence advanced phthisis. Moreover, there is much in the theory advanced by Koch that is opposed to existing physiological and pathological teaching, and this must be explained away ere the "lymph" can obtain a satisfactory status. There have been too many gigantic discoveries palmed off on the medical profession for it—at least the thinking portion thereof,—not to entertain judicious skepticism, pending complete and irrefragable demonstration. Should the somewhat boastful and florid promises made be realized to *any* extent, we shall be the first to congratulate Prof. Koch and the world on the discovery. In the meantime, until the year has elapsed which Virchow states will be necessary to establish the value or fallacy of the discovery, we would advise that existing therapeutics be not abandoned for—no one knows what.

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Since writing the foregoing, word comes from Vienna that analysis of the "lymph" reveals no trace of metallic substances; only proteid material—peptones, toxalbumins and enzymes.

RABIES AND HYDROPHOBIA.

This was a subject of discussion at a recent session of the N. Y. Academy of Medicine, the results of which may be briefly summarized as follows:

The malady is more frequent in animals than in man. It is less frequent in the United States than Europe. Very few men have ever seen a genuine case, since pseudo-hydrophobia is common and usually fatal. That there is considerable diversity of opinion as to the value of Pasteur's investigations.

Book Notices.

Manual of Auscultation and Percussion. By the late Austin Flint, M. D., LL. D. Fifth edition. Cloth 8vo.; pp. 208. Price $2.00. Published by Lea, Brothers & Co., Philadelphia.

This work contains the substance of the lessons which the late Prof. Flint was wont to inculcate in his teaching of auscultation and percussion. The aim as originally stated by himself is:

To simplify the subject as much as possible, avoiding all needless refinements; to consider the distinctive signs as determined by analysis, and as based especially on variations in the intensity, pitch, and quality of sounds; to impress the fact that the significance of physical signs relates to certain physical conditions, and the importance of a familiar acquaintance with these conditions, as well as with the distinctive character of the signs by which they are represented; to enforce the necessity of sufficient study of the physical conditions and the signs of health as a *sine qua non* for success in the study of the physical diagnosis of diseases, and; to waive the discussion of the mechanism of signs taking the ground that our knowledge of the significance of signs rest solely on the constancy of their connection with the physical conditions they represent.

The value of the work is to be seen in the clearness and appropriateness of the style, the accuracy of its statements, its scientific method, and the practical treatment of subjects at once difficult and essential to the student of medicine.

Scribner's Magazine for 1891.

Scribner's Magazine for the coming year will be noteworthy for a number of special features which the publishers believe are of very unusual interest, and among them the following may be mentioned: Sir Edwin Arnold contributes to the December number the first of a series of four articles upon Japan, its people, its ways, and its thoughts. Mr. Robert Blum, who was commissioned to go to Japan for Scribner's Magazine, has prepared a very remarkable series of drawings to illustrate Sir Edwin's papers. Articles upon the recent Japanese Festival will follow. Henry H. Stanley has prepared for the January number an important article upon "The Pigmies of the Great African Forest." Another contribution in this field will be Mr. J. Scott Keltie's account of the recent African Exhibition held in London. Both papers will be amply illustrated. The Wrecker, a serial novel by Robert Louis Stevenson and Lloyd Osbourne, will run through a large part of the year. Illustrated by Hole. A two-part story by Frank R. Stockton will also appear. Prof. James Bryce, M. P., author of "The American Commonwealth," will write a series of four articles upon India, embodying the results of his recent journey and studies in this land of never-ending interest. Ocean Steamships will be the subject of an important series somewhat upon the lines of the successful railroad articles. "Passenger Travel," "The Life of Officers and Men," "Speed and Safety Devices," and "Management," are some of the subjects touched upon and illustrated. Great Streets of the World is the title of a novel collection of articles on which the author and artist will collaborate to give the characteristics of famous thoroughfares. The first, on Broadway, will be written by Richard Harding Davis, and illustrated by Arthur B. Frost. Others will follow on Piccadilly, London; Boulevard, Paris; The Corso, Rome. The price of Scribner's Magazine admits of adding a subscription to one's other reading at very small costs. Orders should be sent at once. $3.00 a year; 25 cents a number. Charles Scribner's Sons, Publishers, 743–745 Broadway, New York.

Secret Nostrums and Systems of Medicine. Compiled by Charles W. Oleson, M.D. Cloth; 12mo; pp. 206. Published by Oleson & Co., Chicago.

This is quite an extended *exposé* of patent nostrum manufactures indigenous to the United States, and we wish every family could possess a copy, as it would tend to decrease largely the sale of pernicious products. There is probably no evil in connection with pharmacy, as related to medicine, so great as proprietary and patent products; and in medicine itself as patent operations for the relief of hæmorrhoids, hernias, etc. The Brinkerhoff method of treating piles, the Rorick method—the latter being only a modification of the former, its author being a pupil of Brinkerhoff—and one or two other methods of like character, are thoroughly exposed, as they should be, and also the fallacy of so-called rectal ulcer treatment.—More practical common-sense information can be had during five minutes' perusal of Dr. Chas. B. Kelsey's little volume on Hæmorrhoids (Leisure Library Series) than in the most comprehensive study of all the "methods" combined. We cordially commend the book to physicians, pharmacists, and their patrons.

Bacteriological Technology for Physicians. By Dr. C. S. Salomonsen; translated by William Trelease. Cloth. 8vo.; pp. 162. Price, $2.50. Published by Wm. Wood & Co., New York.

The first edition of this work was issued in 1885 as a reprint from the "Nordiskt Medicinskt Arkiv." The increased size of the new edition is partly due to the addition of an introduction to microscopic investigation, and partly to the re-elaboration and extension of all the chapters.

The work outlines two objects: First, a practical bacterial course for physicians and veterinary surgeons: Second, a guide for those who are obliged to take up the subject without the assistance of an instructor, yet wish to carry out for themselves the fundamental experiments which are most important for pathology and hygiene. The work is, therefore, far from being an exhaustive presentation of the entire technology of the subject, but merely

aims to describe the simplest and most easily managed apparatus and methods, so that the equipment of the necessary house laboratory need not be too exhaustive.

Contents of the Cosmopolitan for December.—Christmas Edition.

This number contains a feature never before attempted by any magazine, consisting of 123 cartoons from the brush of Dan Beard, the now famous artist, who did such wonderful illustrations in Mark Twain's book, "The Yankee at the Court of King Arthur."

These cartoons are placed at the bottom of each page of the magazine, and take for their subject, "Christmas during the Eighteen Centuries of the Christian Era," with variations, showing the way in which we modern Christians carry out some of the chief texts of the Christian Gospel.

Above, and at each side of the page, is a quaint border, the whole effect being novel and extremely pleasing, and with the unusual varied table of contents, will make such a Christmas number as is worthy to go into more than 100,000 households.

The frontispieces of the Cosmopolitan have of late become noted for their beauty, some of them having as much as four printings. That for Christmas, while in but two printings, is not behind anything that has preceded it in artistic merit.

An excellently illustrated article is one on teapots, by Eliza Ruhamah Scidmore. Literary Boston is treated of with numerous portraits, and an article which comes with the ninetieth birthday of Von Moltke, sketches the life of the great Field-Marshal in an interesting way, and is by Gen. James Grant Wilson. Elizabeth Bisland has one of her charming articles.

The Christmas issue contains 228 illustrations, nearly double the number that have ever appeared in any illustrated magazine.

Index of Diseases and Remedies. By T. Lauder Brunton, M. D., D. Sc., F. R. S. Cloth, large 12mo.; pp. 263. Published by Parke, Davis & Co., Detroit.

The vastness of the domain which medical literature now occupies makes an index of diseases and remedies a great convenience to physicians desiring to readily consult the best modern authorities as to the treatment of any given malady. In this belief Messrs. Parke, Davis & Co., have compiled this volume from that most excellent work, "Pharmacology, Therapeutics, and Materia Medica," by T. Lauder Brunton, the erudite editor of the "Practitioner." A supplement also has been added referring to the medicinal agents mentioned in the Index, and detailing the pharmaceutical preparations of each.

Notes and News.

The Old Doctor.—Dr. George Monroe is credited with the following tribute to the loved and honored family doctor.

A physician's occupation appears to be somewhat paradoxical. He is either bringing some poor, miserable wretch into this wicked, sinful world, or is laboring to prevent others from leaving it for a better. Into what close relationship is he brought with the people! What responsibility is his! How many a tale of joy, gladness, hope and pleasure, or sorrow, sadness, suffering and despair he could tell! How many family histories he could relate! How many skeletons he sees in the family closets! Of how many confidences and secrets is he made the repository! How many a home has been cheered and made happy by his presence! How many a bitter heart-ache has he witnessed! What is more gratifying or satisfactory than to hear the old doctor, in whom the utmost confidence is placed, say "he" or "she is better and will get well"! A house where has been sorrow, grief and tears for days, where a loved mother, mayhap, has been thought dying, and the good old doctor pronounced the crisis passed, that she will get well and be spared to her family. Oh, what a change comes over this family! Joy almost unbearable enters every heart. When a father has been near the unknown, and the distracted and nearly heart-broken wife and weeping children have thought their stay, comfort and support was about to be taken away from them, and the doctor at his morning visit says "better, will get well," what gladness takes possession of every one at these good tidings! Yesterday was dark, gloomy and sunless; to-day not a cloud is to be seen, not even a mist, but beauty, sunshine and perfect joy and light. When a little child is at the grave's brink, and the force of a thistledown wafted on the breeze would appear to be sufficient to convey it to the other world; when the windows are shaded and the streets covered with straw, that no light or noise may act as a disturbing element to the little sufferer; when even the doors are left ajar, so they may not grate upon their hinges; when the mother reflects how drear and desolate the home will be without the little prattler whose voice will be hushed until the resurrection morn—the fountains of tears well up to overflowing and the sobs and sighs cannot be suppressed; that mother prays as she never prayed before that her child may be spared—the very heart-strings are nearly broken. The old doctor arrives and finds the child breathing easily, its skin moist, the fever gone, and sleeping quietly. He pronounces the talismanic words, "better, will get well." Oh, then there is joy and thankfulness in that household! A peaceful calm comes upon them; almost a glorified radiance covers the mother's face. It is then that the tear-fountains overflow with joy and gladness and not with grief. What a difference there is between tears of sorrow and sadness and those of joy and gladness! The one kills; the other brings to life. Oh, how anxiously and closely we scan every expression of the old doctor's face and listen to his every word when he is at the bedside of our sick! He is a harbinger

of joy or sorrow to many a heart. Long live the kind, good old doctor!

The New Botanical Laboratories at University College.—The study of botany ought, it is thought by many capable of judging, to occupy a larger share of the attention of medical men than it does at the present day, both as a means of general education, and because the members of a cultured profession are presumed by the public to possess a knowledge of the science. In order to make it a really instructive study, it is necessary that the facilities placed at the disposal of students should be such as will divest it of a great deal of pedantic and profitless book-lore with which it is now the custom to invest it, by surrounding it with the practical means of obtaining an acquaintance with plants, and with the facts concerning them which it is desirable to possess. It is a subject which lends itself peculiarly to the objective method of instruction, and is one in which the educational dictum of "No object, no lesson," should be strictly insisted upon. We are glad to record that at University College new botanical laboratories have been erected and the old ones refitted and enlarged, with a view of affording opportunity for study and research which will enable the science of botany to take its place beside other branches of biology already so well provided for in the College. In the laboratory, in which forty-five students can work, wall cases are arranged along its entire length, and in them are displayed for the use of the students preserved specimens to illustrate the whole vegetable kingdom. A large room has been provided for advanced laboratory work in all its aspects, and a dark chamber has been specially constructed, and constitutes a valuable aid to this branch of botanical teaching. By the construction of a conservatory on the roof, with appropriate heating apparatus, great facility is given for special work on the physiological properties of plants, as well as for raising seedlings and for the cultivation of selected plants for lecture-room demonstration. Altogether, the improvements are of such a kind as cannot fail to prove of great value, and if the subject is not taught in a thoroughly educational and scientific way in University College, it will not be from defect of accommodation.—*The Lancet.*

Railway Readers.—A contemporary recently stated that a French medical practitioner has been collecting statistics with regard to those of his patients who complain of nervous affections, and came to the conclusion that all the evil proceeds from the practice of reading in the train. We can hardly accept this view. Many thousands of business men have no other time than the half or three-quarters of an hour on the train to learn the state of the markets, the last move in the politics of the great powers, general news, and the various items that make up the ordinary contents of a morning or evening paper, and it would hardly appear that the duration of the cause is sufficient to produce the effects assigned to it, whilst the majority of people travel too rarely and read too little to suffer at all. Our contemporary suggests that a paper with specially large type should be printed for the use of travellers by rail. We fear it would prove of little service. We suggest that all carriages should, as a general rule, be supplied with a better light.—*London Lancet.*

Dr. Henry Jacob Bigelow, of Boston, died on October 30th, at the age of seventy years. He had for many years, beginning in 1849, been the Professor of Surgery and Clinical Surgery at Harvard University, and the foremost surgeon of New England. He was the son of an eminent physician, Dr. Jacob Bigelow, and was educated at Harvard, taking his medical degree in 1841. He was Boylston prizeman in 1844, with an essay on the subject of Orthopædic Surgery, and from that time began the publication of surgical papers that fixed his reputation for originality, capacity, and skill. His development of the operation of lithotrity extended his repute abroad, and in 1882 the Academy of Medicine of Paris recognized his work in that department of surgery by the award of a prize. In that year he was made Emeritus Professor of Surgery after thirty years of active duty in the Harvard University Medical Department. In 1886 Dr. Bigelow retired from active practice. His health had been failing for some time by reason of gastric and hepatic disease.

Richard J. Levis, M. D., died of pneumonia, November 12th, at his residence, "Cedar Croft," after an illness of two days. He was born in Philadelphia, in 1827, was the son of the late Dr. M. M. Levis, and studied medicine at Jefferson College graduating in 1848. Dr. Levis was at various periods during his active professional life, surgeon to the Wills Eye Hospital, to the Philadelphia Hospital, the Pennsylvania Hospital, the Jefferson Hospital, and the Philadelphia Polyclinic and College for Graduates. From 1877 to 1887 he was President of the Board of Trustees of Jefferson College. He also served as President of the Medical Society of the State of Pennsylvania in 1885, and as President of the Philadelphia County Medical Society in 1885-86. Dr. Levis retired from practice in 1887. An active worker in surgery, he made many valuable contributions to its literature, establishing for himself the enviable reputation of a leading and progressive man.

Diphtheria from Cats.—A family residing in Middleton, Wisconsin, has just had a terrible experience with diphtheria contracted from a stray cat that was given shelter in their home. Although the feline was observed to have a discharge from the nose and mouth, nothing was thought of it until an infant was stricken with diphtheria and died, and the attending physician discovered the source of the infection. A second and third child also succumbed to the malady, while the others of the family who contracted the disease recovered.

It is surely time people were taught the danger of permitting cats, especially stray cats, being fondled by children, and of keeping such as pets. Aside from diphtheria, cats may carry numerous other diseases, notably scarlatina, and measles.

Dr. A. Jacobi's Views on International Congresses.—Under the title of "The Americans and the Tenth International Congress," Dr. A. Jacobi recently presented to the New York Academy of Medicine a most interesting and scholarly paper expressive of his impressions of the objects and results achieved by such International affiliation, and made some admirable suggestions as to how the scientific objects of such Congresses might be better achieved at future meetings. His paper is published in the New York Medical Record, November 14th.

Prof. Bartholow's Retirement—Candidates for His Professorship.—According to the College and Clinical Record, Professor Bartholow, who has for many years occupied the Chair of Materia Medica and Therapeutics in Jefferson Medical College, has been compelled by failing mental health to relinquish that position. The vacancy will be filled early in December next. The principal candidates therefor are Drs. Hobart A. Hare, S. O. L. Potter, S. Solis-Cohen, F. P. Henry, T. J. Mays, D. E. Hughes, J. Hearn, and J. B. S. Alleyne of St. Louis.

Professor von Nussbaum.—The London Lancet announces the death of Professor von Nussbaum, who died at Munich on October 31st, at the age of 61. The distinguished Surgeon had for some time been in failing health. He had a severe attack of influenza last winter, but was able to resume his duties as Professor of Surgery in the summer.

A Woman's Medical School at Johns Hopkins University.—One hundred thousand dollars have been donated to Johns Hopkins University, and accepted by the Trustees, for the endowment of a medical school in which women may be instructed in the science and art of medicine.

Therapeutic Brevities.

Guaiacum as a Purgative.—Wm. Murrell, M. D., F. R. C. P., in Med. Press and Circular, calls attention to the use of guaiacum in the form of confection as a purgative. This contains ten grammes of guaiac resin to a drachm of honey. He says:

This was curiously popular with the patients, and for the last two years I have used it extensively, not only as a purgative but in the treatment of chronic rheumatism, sciatica, tonsillitis, dysmenorrhœa, and allied affections. The confection is nasty, but appreciated by patients. At first I gave it in drachm doses once a day, but they were not satisfied with this, and I had to increase the dose to two drachms three times a day. In this quantity it seems capable of producing the maximum of inconvenience and discomfort, and gives unlimited satisfaction. The purgative effect is very pronounced, and in one case the patient had fifty-six evacuations in the week. In another case it produced a well marked rash, covering the arms and legs with an eruption which forcibly reminds one of copaiba. That this rash is rare, may be gathered from the fact that my colleague, Dr. C. T. Fox, had seen only one similar instance. It was accompanied by intense itching which disappeared on discontinuing the drug. The guaiacum not infrequently gave rise to a burning sensation in the throat, and to obviate this I prescribed the ten grains of the resin in half an ounce of extract of malt, which answered admirably. This method of treatment is, perhaps, simply a return to the old-fashioned "Chelsea Pensioner," which consisted of guaiacum, rhubarb, ginger, sulphur, and certain other ingredients, but it is interesting nevertheless. I am sure that a trial of guaiacum resin as a laxative or purgative, according to the dose employed, will be found satisfactory. It is possible that if the drug were triturated with cream of tartar, sugar of milk, or some other equally inert substance, its efficacy would be increased, and it would produce the desired effect in smaller doses.

The Local Treatment of Enlarged Spleen.—Mosler contributes an article on this subject in the Wiener Medizinische Wochenschrift, 1890, vol. i., p. 3. He has for some time tried other local remedies rather than extirpation. He first used parenchymatous injections of a 2 per cent. solution of carbolic acid, and later injections of Fowler's solution. With the latter he obtained good results in a patient with an enlarged spleen, the result of malarial fever. Mosler also employed Hammond's method of injection of ergot, and also Jager's processes—simple puncture, electro-puncture, and injections of sclerotic acid. In Jager's case death followed a few hours after the injection of the sclerotic acid. In spite of fourteen punctures and four electro-punctures, no trace of hæmorrhage was found in the parenchyma of the spleen. One fatal case which Mosler had, caused him to frame the following rules for the injection of drugs: 1. Only enlarged spleens of firm consistence are suitable, provided these are not accompanied by an extreme degree of anæmia, or by evidences of the hæmorrhagic

diathesis. 2. Before the injections a prolonged use of drugs is necessary (these drugs are not mentioned by name), in order to act upon the contractile elements of the spleen, and so diminish the amount of blood in the organ, and, as far as possible, to render narrower the lumen of the vessels; the application of an ice-bag over the spleen is especially useful a few hours after and before the injection. 3. Fowler's solution is the most satisfactory drug to inject. Mosler states that he has recently had very good results following on the injections in enlarged leukæmic spleens. In one or two cases in which the disease proved fatal there was shown to be considerable thickening and constriction of the capsule, and Mosler is of opinion that this contraction has a favorable result not only by producing a general lessening in size of the spleen, but also by checking the leukæmic process, thus considerably improving the prognosis.—*Lancet.*

Therapeutic Effects of Clay.—In a recent report to the Kiev Medical Society, Professor A. S Shklarevsky, of Odessa, Russia, (Voënno Meditzinsky Jürnal, No. 7, 1890, p. 87), gives his experience with the so-called "compound clays" as therapeutic agents. He employed two varieties, as found in the vicinity of the town. Both had an almost identical composition, the constituents being alumina, silica, iron (in rather large proportion), calcium, magnesium, potassium, sodium, and some organic substance which did not yield any volatile or ichthyol-like bodies on distillation. The author tried the clays in about 300 cases of various affections, in nine tenths of which the patients belonged to the working class. Externally the clay was used in the form of an ointment of cream-like consistence, prepared by combining with diluted table vinegar (1 part of the latter to 2 parts of water). The application of this salve gave the best results in cases of chronic articular rheumatism, eczema (especially the acute professional eczema of laundresses, and chronic eczema of nervous origin), lupus erythematosus, chronic ulcers of the leg (more especially those of an eczematous character). Internally the substances were administered in doses of from 10 to 30 grains two or three times a day, in the form of pills or powders (with milk or water). They proved most useful in cardialgia, intractable vomiting, dyspepsia (especially in anæmic or chlorotic women with a tendency to diarrhœa and colic), peripheral neuritis, and neuralgia. On the other hand, both varieties of the clay were found totally useless in acute rheumatism (in which the application even aggravated the articular pain), psoriasis, chronic urticaria, ptyriasis versicolor, and tricophytina capitis. When sterilized by exposure to heat (150° or 200° C.), clay may be used as a very cheap and good aseptic material for surgical purposes.

Massage Baths for the Baby.—The treatment of the baby should be hygienic rather than medical. Nothing allays irritability and promotes assimilation like a massage bath, given at regular intervals by those who have had experience.

What is a massage bath? It is a plain bath in which great care is taken to regulate the temperature and the length of time, according to the strength and vitality of the child. If the child be very weak and frail, sea salt and other strengthening ingredients are added. After the bath, the body is carefully dried with a soft woolen cloth, and then anointed with cocoanut oil or vaselin, and every muscle and fibre carefully manipulated with the hands, special skill being necessary to knead and manipulate the bowels.

What is accomplished by this bath? The tissues are hardened; the skin is kept active; the soft fat that is so often mistaken for health will be absorbed and firm tissue take its place. It soothes the nerves and tides them over the critical teething period and enables them to assimilate food that would otherwise remain in the stomach and bowels causing troubles that cut so many of their young lives short.—Dr. E. C. Moore in *Health Record.*

The Treatment of Syphilis by Calomel Plasters.—M. Quinquand (Annales de Dermatologie et de Syphilographie) recommends for the treatment of syphilis a plaster containing calomel applied over the region of the spleen. The plaster is composed of diachylon 300 parts, sublimed calomel 100 parts, castor oil 30 parts. The skin having been washed with soap, the plaster is spread on a piece of muslin about four inches square and applied. It is removed at the end of eight days, and after eight more days is again applied and allowed to remain for the same length of time. This process is repeated indefinitely. In the case of patients who are engaged in manual labor, the plaster should be renewed in four or five days after being removed.

M. Quinquand has assured himself, by examinations of the urine, that mercury is absorbed when used in this way, and from it he has obtained as good results as from any other method of treatment. He considers this plan a particularly safe one, salivation being avoided, while a very small amount of mercury is constantly passing into the circulation.

Chekan in Bronchitis.—Dr. E. R. Waterhouse, of St. Louis, Mo., writes as follows in the American Medical Journal: This is a remedy recently introduced from Chili, where it grows in vast profusion, often to the dimensions of a tree ten to fifteen feet high. The plant belongs to the same family as the allspice and the clove. The leaves are the parts used in medicine. They are covered with minute oil-glands, which oily substance constitutes about one per cent. of the weight of the dry leaves, and is without doubt its medicinal property.

It has been used to a considerable extent in the hospitals in various parts of Germany, and is valued very highly in the treatment of chronic bronchitis. I would suggest its use in the class of atonic cases where there is rattling of mucous in the bronchial tubes, or in cases where the balsamic expectorants would be indicated. It may often be used in combination with collinsonia, thus: Collinsonia and fl. ext. chekan, ää ʒ ss; syr. simp., q. s. ad ʒ iv. Teaspoonful every one to three hours.

Peroxide of Hydrogen as a Disinfectant of Water.—Dr. Altehoëfer after giving references to the literature of the subject, gives his own researches on the disinfective power of peroxide of hydrogen dissolved in water. He finds that the addition of one part to a thousand of ordinary drinking water, to drinking water containing sewage, or to water containing typhoid bacilli or cholera bacilli, is quite sufficient to destroy the various saprophytic and pathogenic organisms contained under these conditions, if it is obtained perfectly fresh and kept in good condition, and if it is allowed to act for a period of twenty-four hours. It is specially valuable for the disinfection of drinking water, because it does not affect the taste, does not alter the color, and in the proportion mentioned is perfectly innocuous. As regards cost, he calculates that sufficient drinking water—say ten litres—for a family, may be sterilized by means of peroxide of hydrogen at at a cost of about five cents per diem.—*British Medical Journal*, October 25th, 1890.

Cactus Grandiflorus as a Substitute for Digitalis.—Dr. Engstad (Therapeutic Gazette) reports favorably of cactus grandiflorus in from 8- to 10-drop doses of the fluid extract three or four times a day, as a substitute for digitalis. He used it with success in cases of weak heart in typhoid patients; pericardial effusion; and "in angina pectoris, where it is almost a specific."

Different members of the cacti have been used in medicine. In the fevers of their native country their juice is used as a cooling drink, and as a local application to indolent ulcers. The fruit of the *C. opinetia*, the well known prickly year, is credited with diuretic properties. The *C. grandiflorus* (night-blooming cereus), which Dr. Engstad recommends, was suggested as a remedy for cardiac palpitation in 1868 by Dr. Rubini, and afterwards by Dr. R. E. Kange for heart disease and angina pectoris.

Treatment of Pruritus and Irritable Skin.—Dr. Porritt recommends the employment of a cone of cacao butter, impregnated with 2 per cent. of cocaine, in the treatment of pruritus and irritable skin. This is rubbed over the part affected. The warmth of the skin melts off a layer of cacao butter, which forms a soothing emollient shield over the irritable patch. The remedy has been put up in the form of cones, enclosed in boxwood cases with screw tops, something after the manner of menthol cones. In irritable affections of the skin, in cases of insect bite, in pruritus, and various other forms of hyperæsthesia, the remedy is worthy of a trial, and its use has a distinct advantage over the more usual applications. Although containing cocaine, the writer regards the manner in which the cacao butter is spread over the affected part as having a share in the curative process.—*Brit. Med. Jour.*

Sparteine as an Aid in Curing the Opium Habit.—In a paper on this subject in Le Bulletin Medical, October 15th, 1890, Ball points out the objections to a sudden stopping of a large amount of opium. The principal dangers are delirium tremens, mania, sudden collapse, and uncontrollable sexual desire. In gradually diminishing the amount, several drugs have been recommended to supply the stimulation which the patient craves. The author has had very good results with the sulphate of sparteine. When the daily amount of morphine is reduced to a grain and a half, a small amount of sparteine is added, which is increased as the morphine is decreased until the patient gets two grains of the former a day, and none of the latter. The sparteine is kept up for some time, and then gradually discontinued. It may be given hypodermically, mixed with the morphine.

The Treatment of Burns.—Bardeleben treats burns after the following plan. The injured part is first thoroughly washed with carbolic acid solution from 2½ to 3 per cent., or with a solution of salicylic acid about 3 in 1,000. All the bullæ are then punctured and the serum allowed to escape, after which the whole part is thoroughly dusted with finely powdered nitrate of bismuth, and a thick layer of cotton wool applied. The latter is changed whenever it is impregnated with the discharges from the wound. If the burn is a very extensive one, the powdered bismuth may be set aside, and a bismuth ointment used instead. The author affirms that with this dressing cicatrization proceeds rapidly, and there is less discomfort than when any other dressing is employed. Despite the large quantities of bismuth that have been applied, no toxic symptoms have been noted in consequence of its use.

Irrigation of the Intestine in Dysentery.—Dr. H. A. Fairbairn (Brooklyn Medical Journal, October, 1890) gives unqualified praise to the treatment of dysentery by irrigation of the large intestine. To be of use, the enemata should be large and repeated every two, three, or four hours. The quantity of water should be, for an adult, about three or four pints, at a temperature of from 100° to 105°. If possible, the water should be distilled, or at least boiled.

Dr. Fairbairn has not found it necessary to use any medicament in the water. As to the instrument used, he prefers a handball syringe, believing that the pressure from a fountain syringe is dangerous. The author also suggests that in chronic dysentery the walls of the bowel may be so much weakened that unless the pressure is very slight, rupture may occur.

Cocaine Anæsthesia by Kataphoresis.—Dr. Arthur Harris thinks kataphorie instead of hypodermic is the proper application of cocaine where local anæsthesia is required, as the toxic effects of the drug are less liable to be observed. He uses a ten-per-cent. solution, with which a flannel-padded positive electrode, corresponding to the size of the area to be anæsthetized, is saturated. The large negative electrode is soaked in salt solution and placed in a suitable position on the surface of the body. A continuous current of twenty-five milliampères is then passed for forty minutes. Failure with this method is due to the fact the currents are too weak, applied for too brief a time, that the operator does not understand the apparatus, or that a reversed current is used.

Medical Progress.

EDISON ON THE APPLICATION OF ELECTRICAL ENDOSMOSIS TO THE TREATMENT OF GOUTY CONCRETIONS.*—Having ascertained that gouty concretions are in many cases medically treated with the aid of lithium salts taken internally, with the object of causing urate of lithium to be formed, dissolved, and excreted from the body; and being also informed that the difficulty met with in the treatment was in ensuring that the salts so administered should be absorbed into the system, it occurred to me that perhaps more rapid success might be obtained if the application was made externally, employing the well known principle of electrical endosmosis to carry the lithium into the tissues. This method of operation appeared to offer considerable hope of success, because the lithium would be brought directly into the neighborhood of the concretions, and would thus be more likely to act promptly and effectively.

Electrical endosmosis, as the name implies, is that property of an electrical current passing through a porous diaphragm between two solutions, in virtue of which one solution is mechanically transferred across the barrier. The current seems, in fact, to accelerate the diffusion which always takes place between solutions separated by a porous diaphragm, and at the same time acts in one direction, the solution being carried from the positive to the negative pole, from the anode to the kathode. A full description of the phenomenon is given in Wiedemann's "Die Lehre von der Electricität."

To test the possibility of causing lithium salts to pass in this way through an animal membrane, I made the following experiment:

A glass funnel of 7.5 centimeters diameter at the aperture was closed by a piece of sheep bladder 0.012 cm. thick, thus providing a porous diaphragm of 44 sq. cms. area. This funnel was inverted, and filled with slightly acidulated water, and a platinum wire passing down the tube formed the negative electrode. The whole was then immersed about 1 cm. below the surface of a 2½ per cent. solution of LiO_2, contained in an evaporating dish above the bottom of which it was supported about 1.25 cms. Immediately after immersion, a second platinum wire, forming the positive electrode, was dipped into the dish, and a current of 150 milliampères sustained steadily through the apparatus for 75 minutes. The funnel was then removed and emptied. Its contents were mixed with a solution of $NaPO_3$, and the mixture evaporated to dryness. The residue was then treated with water to dissolve the sodium salt, and then left for twelve hours. The final precipitate was found to contain 0.5 gramme of $LiPO_3$.

The experiment was then repeated under precisely similar conditions except that no current was passed through the apparatus, and diffusion only could be active in transferring the salt. The analysis in this case showed that 0.3 gramme of lithium phosphate was present, from which it was presumed that in the previous instance the current had increased the diffusion transfer to the extent of 67 per cent.

*Abstract of a paper presented to the Berlin Medical Congress.

Finding the experiment succeed with a membrane, I next tried whether a healthy man, after being subjected to such a course of treatment as a patient suffering from concretions might be expected to undergo, would not give indications of the absorption of lithium in his excretions. In October, 1889, J. D., an active, healthy laborer, aged twenty, and of 140 pounds weight, was operated upon. He sat in a chair and kept his hands immersed to to the wrists in glass jars, one containing a solution of 2 per cent. lithium chloride with a platinum electrode, and the other containing a solution of common salt with the negative electrode. The current passed through him was 4 milliamperes, which was as much as he could conveniently stand. This treatment was continued for about two hours daily during one week, the total time of application amounting to eleven hours. His urine was collected during that week, and tests were then applied to it. Using a particular spectroscope and method, it was found that a solution containing $\frac{1}{40000}$ part by weight of LiCl in water was just detectable as a faint red band in the spectrum. No such band could under these circumstances be discerned from the urine itself, but a condensation of all the week's urine reduced to the form of chloride gave a distinct band. An evaporation of two fifths of the total quantity of this liquid yielded on analysis 0.22 gramme of lithium chloride, and it was therefore presumed that the whole amount of salt excreted was 0.55 gramme, corresponding to 0.09 gramme of metallic lithium, or equivalent to the removal of 2.43 grammes of uric acid.

I next tried the application of the method to a patient suffering from an acute and typical form of the malady, in December, 1889. This person volunteered to try the effect of the method. He was seventy-three years of age, and had lived an active, healthy life until ten years previously, at which time, according to his own statement, he contracted the disease through sleeping in damp sheets. Concretions commencing, continued to increase slowly until they assumed large proportions. All the joints except the knees were much enlarged by atheromatous concretions. A certain degree of venous congestion was visible in his face, and incessant pain had supervened in various parts of the body during the last few months, apparently from the pressure of the calculi upon the nerves. The joints of the fingers were almost obliterated by concretion.

The girth of the little finger of the left hand was by careful measurement 8.6 cms., that of the corresponding finger of the right hand even greater. There was great weakness and difficulty in walking, but the mind was clear and intelligence unimpaired.

Treatment was commenced in the manner above described. The current generated from a 120 volt dynamo, passed through about 5,000 ohms resistance, and entered a jar containing an aqueous solution of lithium chloride, density 1.08, in which the patient immersed his left hand up to the wrist. His right hand was similarly immersed in a solution of common salt. The current, after passing through his body, left the latter jar by a negative electrode. It was found that he could stand 20 milliamperes without inconvenience, and this strength of current was steadily ap-

plied for six days during four hours daily. At the end of that time the girth of the left hand little finger was distinctly reduced to 8.2 cms.; the patient also experienced freedom from pain after the first day's treatment. He continued the treatment for two days more during the week following, and then the journey to and from the laboratory exhausted his strength. The finger girth, after fourteen days from the date of commencing treatment, was 8.0 cms., a total reduction of 0.6 cm. This was estimated to represent a reduction of 0.3 cm. of concretion on this particular finger, whose form facilitated accurate measurement. His general condition, beyond the weakness resulting from unaccustomed journeying, was temporarily ameliorated.

From these experiments, I think it fair to conclude that satisfactory use can be made of the principle of electrical endosmosis in such cases.

It should be mentioned that lithia was first tried in the bath solution, and given up on account of its caustic effects. Even an aqueous solution of 1 per cent. of lithia was found to blister the hands after continued immersion. It would, therefore, have been necessary to employ a very weak solution had its use been retained, with a correspondingly engthened course of treatment, but time did not allow. The chloride salt was used in the expectation that it would be decomposed within the cuticle during the act of endosmosis by electrolytic action, or that failing this, it would enter into a direct combination with the uric acid.

DIPHTHERIA IN ANIMALS AND IN MAN.—During the last few years diphtheria has taken a firm hold on the population of Buenos Ayres. It is the custom in this city to publish in the daily papers mortality tables showing the diseases which have proved fatal, and the houses where the deaths have taken place. With the object of finding out, if possible, the causes of this epidemic, I undertook an investigation, taking as a basis the deaths occurring during the first half year of 1889. I examined the mortality tables, and by their means was enabled to find 260 houses where patients had died from diphtheria during those six months. I visited each of these houses, and obtained personal information as to the special conditions in which each house was placed.

The facts gathered enabled me to affirm that the great cause of the present epidemic of diphtheria in Buenos Ayres is the presence of animals, especially hens and horses, in yards, without any pavement, or badly paved. Most of the houses in Buenos Ayres have what are known as "patios;" these are open spaces within the houses. Some houses have three or four "patios," and frequently, especially amongst the poorer classes, the back "patio" is not paved, and hens are kept on it. The soil of Buenos Ayres is of a very retentive character, consequently these unpaved "patios," enclosed as they are by walls which obstruct a thorough ventilation, are highly favorable to the production of dampness. Hens which live on these damp soils become a prey to diphtheria, and children who play in these back yards contract the disease from these hens. Of the 260 houses which I examined, I found that hens were kept in 145, and of the remaining houses hens were kept immediately adjoining in 35 instances, the separation of the yard in some cases being so insignificant as to make the two houses a single one.

I found that 35 per cent. of those who died from diphtheria lived in houses where horses were kept, or in houses immediately adjoining stables. Mention may here be made of the statistics of some of the European armies with relation to diphtheria mortality. In the French army there are three times as many deaths from this disease amongst cavalry as amongst infantry troops. The same holds good for Germany. Diphtheria is three times as fatal in the cavalry as in the infantry regiments, while in Hungary the disease prevails very little in the army, but where it does prevail selects its victims chiefly from the cavalry regiments. I found that of the houses where diphtheria patients died, and where some of the following animals existed—horses, hens, pigeons—85 per cent. had back yards without any pavement, or with very imperfect ones.

Of the 260 houses examined, I found that in 205 horses, hens, or pigeons were kept either in the house itself, or in the house immediately adjoining.

I found out the following practical cases, pointing to the direct infection of children from hens affected with diphtheria:

1. In Corrientes Street, a child, 2 years of age, died in the month of January. The house had a single storey, and a back yard without pavement. A few days before the child took ill, two of the hens which were kept in the house had ulcers in the throat.

2. In California Street, two children, one 2 years old, the other 4, died in the month of March. The house was a lodging-house, and had a back yard without pavement. A few days before the children died, two of the hens which were kept in the house died, having "made a strange noise with their throats" during their illness.

3. In Europe Street, a child, 3 years of age, died in the month of April. Lodging-house, with back yard, without pavement. A month before the child died the hens sickened with an "affection of the mouth."

4. In Salta Street, a child 9 years old died in the month of April. House had a back yard, without pavement. Three weeks before the child, several of the hens died with "ulcers in the throat."

5. In Talcahuano Street, a child died from diphtheria, who was in the habit of playing all day in the back yard, where the hens were kept. In those days when the child sickened, several hens died from an affection where the "throat was swollen, and membranes were extracted from the nostrils."

6. In Jehallos Street, two children died of diphtheria in the month of May. Back yard without pavement. A month previous to the death of these children the hens suffered from ulcers in the throat.

7. In Belgrano Street, a girl, 16 years of age died of diphtheria. The yard was paved, but imperfectly so. A hen house was kept in the yard. A few days before the girl died two hens had suffered from ulcers in the throat.

8. In San Antonio Street there is a large lodging-house, where several children had died of diphtheria at different times. There is a yard without pavement. The man in charge

of this house informed me that it is a common thing for the hens kept there to suffer from ulcers in the throat.

9. A physician in Buenos Ayres lives in a two-storeyed house. On the ground floor a hen house is kept on one of the "patios." One day he saw one of his children playing amongst the hens, and remembering that he had once assisted at a fatal case contracted from a diphtherial hen, he called out to his child to come upstairs. Next day the child sickened with diphtheria, and subsequently died. It was found that the hens at the time were suffering from ulcers in the throat.

These cases which I have selected, would of themselves point strongly to the direct infection of children from hens and other animals, but taken in conjunction with recent observations made in England and on the Continent, they are strong testimony to the truth of the theory which ascribes diphtheria in animals to the presence of a damp soil, and diphtheria in the human subject to contagion from animals so infected. I do not for a moment wish to state that diphtheria in the human subject has no other origin than that just mentioned. It is, however, ascertained that diphtheria in the human subject may be due to dampness, to the removal of mixed deposits of vegetable and animal matter after they have been in intimate union for some time, to infected milk, and lastly, but very rarely, to infected water.—Dr. James T. R. Davison, in *British Med. Jour.*

Peroxide of Hydrogen.—Since the discovery of peroxide of hydrogen, its therapeutical application seems to have been neglected both by the medical and surgical professions; and it is only in the last twenty years that a few bacteriologists have demonstrated the germicidal potency of this chemical.

Among the most elaborate reports on the use of this compound may be mentioned those of Paul Bert and Regnard, Baldy, Péan, and Larrivé. Dr. Miguel places it at the head of a long list of antiseptics, and close to the silver salts. Dr. Bouchet has demonstrated its antiseptic action when applied to diphtheritic exudations. Professor Nocart, of Alfort, attenuates the virulence of the symptomatic microbe of carbuncle before he destroys it, by using the same antiseptic. Dr. E. R. Squibb, of Brooklyn, has also reported the satisfactory results which he obtained in the treatment of infectious diseases.

Although the above-mentioned have demonstrated by their experiences that the peroxide of hydrogen is one of the most powerful destroyers of pathogenic microbes, its use in therapeutics has not been as extensive as it deserves to be. In my opinion, the reason for its not being in universal use is the difficulty of procuring it free from hurtful impurities; another is the unstableness of the compound, which gives off nascent oxygen when brought in contact with organic substances.

Nevertheless, the satisfactory results which I have obtained in the treatment of wounds and phagedenic chancres, varicose ulcers, parasitic diseases of the skin, and other germ affections, justify me in adding my statement as to the value of the drug.

I now wish merely to give a report of the experiments I have made with the peroxide of hydrogen upon cultures of the following microbes, viz.: *Bacillus anthracis*, *bacillus pyocyaneous*, the bacillus of typhoid fever, of Asiatic cholera, and of yellow fever, *streptococcus pyogenes*, *micro-bacillus prodigiosus*, *bacillus megaterium*, and the bacillus of osteomyelitis.

The peroxide which I used was a 3.2-per-cent. solution, yielding fifteen times its volume of oxygen; but this strength was reduced to about 1.5 per cent., corresponding to about eight volumes of oxygen, by adding the fresh culture containing the microbe upon which I was experimenting. I have also experimented upon old cultures loaded with a large number of the spores of the *bacillus anthracis*. In all cases my experiments were made with a few cubic centimetres of culture in sterilized test-tubes, in order to obtain accurate results. The destructive action of peroxide, even in the above proportions, is almost instantaneous. After contact of a few minutes I tried to cultivate the microbes, but unsuccessfully, owing to the fact they had been completely destroyed.

It is worthy of notice that water charged under pressure with fifteen times its volume of pure oxygen, has not the antiseptic properties of peroxide of hydrogen. This is due to the fact that when the peroxide is decomposed nascent oxygen separates in that most active and potent of its conditions next to the condition, or allotropic form, known as ozone. Therefore it is not illogical to conclude that ozone is the active element of peroxide of hydrogen.

Although peroxide decomposes rapidly in the presence of organic substances, I have observed that its decomposition is checked to some extent by the addition of a sufficient quantity of glycerin; such a mixture, however, cannot be kept for a long time, owing to the slow but constant formation of secondary products having irritating properties.—Dr. Paul Gibier, in *Med. News*, October 25th.

Hot Water in the Treatment of Acne.—Dr. Frederick J. Leviseur, Dermatologist to St. Bartholomew's and Randall's Island Hospitals, New York, says, in the Medical Record, September 13th, 1890, hot water applied twice or three times a day for about five minutes is one of the most reliable local remedies which we possess for the treatment of acne of the face. To derive the full benefit from the effects of this simple remedy, it is necessary, that the physician, and through him the patient, should be thoroughly familiar with the proper method of using it. The water should be very hot, so hot in fact that it can hardly be borne by the patient. Care should, of course, be taken not to scald the face, but if the water is warm only, instead of really hot, more harm than good will be produced. The face should not be washed, rubbed, or bathed with the hot water, as is so frequently done, but a small portion of the diseased area soaked with it for a very short time only. The heat of the water, which is brought in contact with the skin, is deeply dissipated for a moment, and causes an intense but transitory local hyperæmia. This is exactly what we want to produce. If the hot water is allowed to act on the skin for too long a time, say more than a minute, or if the application is renewed at too short intervals, an acute inflammatory condi-

tion is added to the disease already existing. It is sufficient to go over the affected parts twice in one sitting, and the entire operation need not take more than three to five minutes. A handkerchief or a piece of soft linen is commonly used to convey the hot water to the face. I use for this purpose a very simple glass holder which I have constructed. Since this little instrument, which I have named "Thermophor," has proved itself very useful and convenient, I shall take the liberty of briefly describing it.

The instrument consists of a handle and a head. The latter is nothing else but an ordinary short test-tube. About half of this tube is filled with cold water. A thick pad of absorbent cotton is tightly stuffed into the opening of the tube. The holder is then reversed and the water inside the tube allowed to soak the cotton. The latter is thus kept in place by dint of the weight and adhesion of the water. During these few preparatory steps water has been brought to the boiling-point in a small vessel on a stove, or over a gas or alcohol lamp. The holder with the cotton is dipped into the hot water, left in it for a few minutes, and then carefully carried to the affected portion of the face.

The advantages of the "thermophor" are manifold. It saves the patient's hands from coming in contact with the hot water, it renders possible the use of water of very high temperature, and makes it easy to confine the action of the heat to a limited portion of the diseased area. Besides it is clean, handy and cheap.

Not only plain, but also medicated hot water may be used in the manner as described above. Hot solutions of boric acid, bicarbonate of soda, salicylic acid, resorcin, etc, are very serviceable. I have had excellent results from the use of the so called "lotio alba" to which resorcin is added according to the following formula: Zini sulphatis, potassii sulphitis, āā ʒ i; aquæ rosæ, f ℥ iv. Dissolve each of the ingredients in half the water, mix and add, resorcini, ʒ i. Shake well. This lotion is to be used hot at night, and cold in the morning.

Resuscitation of the Apparently Drowned.—For the revival of persons who have been nearly drowned, two chief methods (with numerous slight modifications of each) are in use: the "Sylvester" and the "Marshall Hall." In 1862, a Committee appointed by the Royal Medical and Chirurgical Society of London to consider the rival claims of the two methods, reported in favor of that of Sylvester, on the ground the amount of air introduced into healthy lungs was double that introduced by the method of Marshall Hall. The Committee recommended the body should be placed at an angle of thirty degrees, face downward, with the head lower than the feet, the mouth being open and the tongue drawn forward. The escape of fluids might be assisted by slight pressure on the back. After a few seconds the body should be laid back downward with a cushion under the shoulders, the tongue hanging out of the mouth. About fourteen times a minute the arms should be drawn above the head, and then lowered, and pressed by the elbows against the chest.

In the Transactions of the above-mentioned Society for 1889, Dr. Bowles criticises very earnestly the conclusions of the Committee, which had been indorsed by the Society. The Committee based its reports upon experiments made with the *empty* lungs of animals. The physician, however, has to deal with human beings whose lungs are filled with fluid, mixed with air in a blood-stained froth. Under these conditions the most useful method must provide not only for the inspiration of air, but also for the escape of the frothy liquid from the deeper air-passages. The sudden introduction of a large quantity of air by the Sylvester method is injurious, because at the same time the froth is drawn deeply into the finest tubes, which before contained a little air. By the Marshall Hall method, however, the air is introduced gently and in small quantities, and the froth is not drawn in more deeply, but is gradually expelled with each expiratory movement. Dr. Bowles supports his statements by the recital of a number of cases which he has treated.

After the patient has been placed for a moment with face downward to allow the escape of water from the mouth and throat, he is turned on the side, and *kept on that side* continuously, except when (about fifteen times a minute) the body is rolled for a few seconds upon the face again. By *keeping the same side always up*, the lung on that side becomes clear. Turning first one and then the other side up is dangerous, because thereby the partly cleared lung is suddenly flooded with fluid from the lung which was downward. It is better to clear one lung entirely than to have both half cleared. Each time the body is turned upon the face a little more froth and water escapes from the mouth and nostrils. If one lung is thus cleared it may escape the inflammation which results from the inspiration of water. When the upper lung has been almost cleared, Dr. Bowles finds it useful to raise the upper arm above the head as in the Sylvester method, since the entrance of larger quantities of air into the lung is now safe. Pressure on the back at each pronation assists the escape of water somewhat, and it has a good influence on the heart, aiding the propulsion of blood toward the lungs. The continued use of the prone-lateral method is an excellent mode of keeping the pharynx clear of obstruction.—*Medical Record.*

The Present Position of Antiseptic Surgery.—In a scholarly address on this subject published in the N. Y. Medical Journal, Henry O. Marcy, M. D., LL.D., says:

The unbiased student must observe in the recent progress in wound treatment a fundamental truth based upon the repeated observations of abundant facts. This consists of three factors: First, the condition of the patient, the so-called vital resistant power; second, the bacterial infection, the seeding of the field; third, the condition of the soil, the pabulum necessary for the growth of the direful harvest. Upon this tripod at present rests the scientific basis of wound treatment. There are many workers equally earnest, equally thoughtful. It is better they should make their observations as independent original investigators.

Much profit comes from the results of such heroic workers as Mr. Tait, Dr. Bantock, and many others I could mention. The recent teachings of those who advocate the so-called dry treatment of wounds conveys another side view of much value. Here primary union is prompt and there is little effusion which seems to require drainage. It will be noted that Sir Joseph Lister looks forward to the possible abandonment of drainage, which he has during the last three years greatly lessened. On the contrary, Mr. Tait, elevates drainage to a most important factor of wound treatment, and at the late International Medical Congress both he and Dr. Bantock predicted a greatly extended use of the drainage-tube. They disregard the bacterial infection, but insist upon the withdrawal of all material which could aid in its possible development.

The ideal of wound treatment is to surely restore the condition of the parts to as nearly their primal state as is possible. If this can be assuredly aseptic, then there is no bacterium to remove; if surgically clean, with accurate coäptation of the sundered parts, then there is no material which needs removal, nothing to drain. If, as we have seen, the leucocytes go promptly to work under such favorable conditions, the first series of the repair processes takes place, which ends in a prompt and speedy restoration. This should be effected under a dressing which will permit of the introduction of no foreign factorage. To this end Lister has unweariedly labored for nearly a quarter of a century. The various antiseptic dressings now so generally employed have a value in wounds necessarily drained, which must be considered open to a possible infection; but in a wound that is closed without drainage they are unnecessary, expensive, and cumbersome. Lister's ideal protective varnish is found in the closure of the wound with iodoform collodion.

My last five years of experience in the treatment of hundreds of aseptic wounds of every variety, closed in layers with buried tendon sutures, and treated in no other way than by a protective layer of collodion, is cited in ample proof. Even in the major amputations such wounds go on to speedy repair without pain or œdema of the surrounding parts. Call the various methods adopted to secure the end obtained by whatever name you will, the great principles of antiseptic surgery as enunciated by Sir Joseph Lister many years ago, rest upon a sure foundation, and the results in modern wound treatment are the marvel of our age.

When Should Medicine be Taken.—The editor of the Medical Summary for November thus discourses on this topic: The proper time for the administration of medicines is of equal importance in many instances with the selection of the medicine itself. The sooner physicians realize this fact the better for the patients.

A large number of medicines are used in the routine way, after meals, but too often, when so employed, they are not properly absorbed, or they hinder digestion, and thus undermine the foundations of nutrition. For example, if the bromides be given after meals their absorption is hindered, and their presence in the stomach interferes with the peptic ferment, so that in addition to the depression caused by bromide treatment, we have superadded that which follows derangements of digestion. Some medicines can be taken at any time because of their diffusibility; other medicaments, in order to produce good results, should be exhibited after meals, and others again should be used only between meals, when the stomach is presumed to be empty.

The administration of pepsin and pancreatin furnish excellent illustrations of these principles. When the secretions of the stomach are sufficiently acid, pepsin alone can be used in the course of half an hour after food; but if there be a lack of acidity, it will be advisable to combine the pepsin with an acid, preferably hydrochloric acid, which is the normal acid of the stomach. Should gastric digestion be slow or imperfect, a little more acid can be added from time to time, although there will be no need for increasing the amount of pepsin provided the peptones are taken up. In the use of pancreatin, on the other hand, the acid condition of the stomach will destroy its activity. This will not take place, however, if the pancreatin be taken with food just after the first mouthful is swallowed, or if the preparation be taken about two or two and a half hours after, when the contents of the stomach are supposed to be neutral in reaction.

Subcutaneous Injections of Water.—Professor Sahli (British Medical Journal, Sept. 20th, 1890) practices the subcutaneous injection of water containing 0.73 per cent. of sodium chloride in the following conditions:

1. Uræmia complicating the course of either acute or chronic nephritis. In such cases the injection of a quart of the solution once or twice daily is, as a rule, followed by rapid abatement of the symptoms, particularly if, in addition, digitalis is administered.
2. In the typhoid state, in which frequently after the first injection delirium ceases, the pulse becomes stronger and fuller, and the tongue more moist.
3. In Asiatic cholera, cholera nostras, and infantile diarrhœa.
4. In poisoning, particularly by substances that are eliminated by the kidneys.
5. When the use of fluid by the mouth is objectionable, as in cases of perforation of the stomach or bowels, peritonitis, etc.
6. In acute anæmia from hæmorrhage.

Sahli believes these injections "wash out" the system by inducing profuse diuresis and the elimination of solids with the urine; dilute the body-juices and the poisonous substances that may be contained therein; furnish water to dehydrated tissues, and raise lowered blood-pressure by filling the vessels.

The injections are given by means of a hollow needle the size of a knitting-needle, antiseptic precautions being carefully observed. One quart of the solution can be injected in from five to fifteen minutes, and the best situation is the subcutaneous tissue of the abdomen.

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Original Articles.

THE TREATMENT OF THE VARIOUS FORMS OF MALARIA.

BY J. M. DA COSTA, M. D.*

It has been decided that malaria is primarily a blood disease, followed by lesions in the blood-making organs, notably the spleen. The great characteristic of malaria is periodicity, which is generally accompanied with rise of temperature, more or less marked. Some protection is afforded by the influence of race, especially the colored race. The tendency of the disease is to antedate, *i. e.*, to recur at a little earlier interval than the previous observation of the attacks would suggest. I will first take up intermittent fever, as in this type we have undoubtedly the purest illustration of the influence of the poison upon the human economy.

Generally, the order of the symptoms in intermittent fever is chill, fever, sweat; this order is occasionally reversed. Although the length of time consumed by one of these attacks varies widely, yet it may safely be said that the average is from six to eight hours —six hours is a closer estimate than eight. The chill is generally preceded by a sensation of chilliness, with the appearance of gooseflesh due to the retreat of the blood from superficial capillaries, and consequent papillary elevation. The patient yawns excessively, decided shiverings appear, chattering of the teeth, and a call for covering is made. Curiously, this decided chill is not attended with a corresponding fall in temperature; on the contrary, while the external temperature remains low, internally there is a sudden and abrupt rise. This rise continues into the hot stage or fever. In the cold stage there is a tendency to congestion of the internal organs, and the skin is not acting properly. The hot stage which follows, is simply a reactive fever; the face becomes flushed, the eyes injected; the patient complains of thirst, dryness and heat of the surface; tosses off coverings, to which he previously clung in desperation. It has been pointed out that the urine during this stage is alkaline in reaction, showing that the normal processes have not been going on in the body.

Can anything be done to prevent the chill, if called upon shortly before the expected paroxysm; or can relief be afforded in the chill itself? Certainly. This is the method which I introduced many years ago, and to which I still cling, and has been universally adopted. If I see the patient twenty minutes, fifteen minutes, or even only ten minutes before the expected chill, I administer hypodermatically an injection of morphia. It may prevent the chill entirely; certainly it will mitigate its severity. Chloroform is another measure which affords relief, the only objection being it must be given by the mouth in rather large doses, half a drachm to a drachm. In a certain number of picked cases, jaborandi or its active principle, pilocarpine, given hypodermatically, by producing profuse sweating in seven to ten minutes, breaks up an expected chill, or at least lessens its severity. I believe the value of these remedies are in this order, morphia, jaborandi, chloroform.

The high temperature of the hot stage rarely calls for medical interference; but the throbbing head and rapid pulse, if desired, can be influenced by aconite.

Now arises the larger question, how shall a recurrence of these malarial paroxysms be prevented. The question was long ago decided that the administration of quinine in some form was the proper method; the only point arises as to the way in which it shall be given. I believe the muriate to be the most potent unless there be some definite objection to its administration. The two questions in its consideration are the dose and mode of introduction to the system. In studying the problem of the dose, I made a number of careful examinations at the Pennsylvania Hospital; I found that the average dose required to be effective was twenty-four grains. Some cases took but twenty grains; others took twenty-six, but the average was found as stated. In practice in other parts of the country, one may find this dose to be insufficient; if so, give what experience teaches to be proper. As to the mode of administration, there is but one correct way, and that is to give the quinine in solution. I was going to say that in this way, double the effect of the drug is obtained; certainly double the certainty of action is insured. When, owing to the youth of the patient, or other cause, the drug cannot be given in this form, I prefer its administra-

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tion as a powder. If it must be given in pill form, the pills should be freshly made. I thought that when compressed pills were placed on the market the pill problem had been solved, but on making trial with them, I found they frequently went through the alimentary canal untouched by the gastric or intestinal juices. In one case I remember recovering successively from the stools of a patient, twenty compressed pills unaltered in their condition.

As to the time of administration of quinine in intermittent fever, I do not think that broken or scattered doses are of much avail; far better are a few decided doses not far from the time of the expected paroxysm. Recent therapeutic research has elucidated the fact that quinine is eliminated from the system in from four to six hours—not longer than eight hours at the outside; hence it is better to get the full impression of the drug not sooner than four to six hours before the paroxysm—four hours are better than six. In the application of this to practice, remember that the chill is apt to antedate itself. I should divide ordinarily the total amount of the drug into three doses; the maximum dose I should give about four hours before the expected time; the other two, providing the chill occurred in the afternoon, as follows; one the night before, the other the next morning. Supposing I gave twenty-four grains altogether, the maximum dose would be twelve grains, the other two, six each. Some cases you will find cannot take the drug at all in the form of the alkaloid; it seems to act on them in the nature of a poison. In such the solid extract of bark may be tried, or a cinchonidia salt, in larger doses. As to the length of time that this treatment should be kept up, remember that for twenty-four hours after the disappearance of the chill and subsequent fever and sweat, the full amount of the preparation is required. The dose can subsequently be cut down one-half, but on every seventh, fourteenth, and twenty-first day, give larger doses of the drug, as the disease shows a strange tendency to return at these periods. This is a fact of common observation and knowledge.

If the quinine is not acting as efficiently as is desired, a hint can be taken which I picked up years ago in reading the report of an army surgeon in India. He noticed that obstinate cases which refused to yield to ordinary routine treatment readily responded to remedies after the active use of purgatives or emetics. He unloaded the portal circle by emesis or the free use of calomel and podophyllin, or colomel and jalap. The reason that the system responds to the action of remedies which have previously failed, is the stomach and upper bowel are placed in a better condition for absorption. Salines can take the place of mercurials, if desired, but are not so effectual. As regards emesis, such has become obsolete by custom.

In the diagnosis of intermittent fevers I may mention two or three points of interest, which as a rule, are pitfalls for many practitioners. I was going to say that not a week of my life passes, certainly not a month, in which I do not examine some case of so-called obstinate malaria which is in reality one of hectic origin. The presence of tubercular deposits in the lung give rise to a fever that in its range is not unlike that of mild intermittent fever. But a careful study of every case, will, I am sure, reveal the true state of things; the mistake is due generally to carelessness; hence in every case of supposed malarial fever, especially if obstinate, the lungs and other organs should be carefully examined. It may even be the clinical expression of an abscess of the liver or a uterine hæmatocele.

Another source of error to guard against is the possibility of the supposed chills and fever being hysterical in origin. I remember the case of a lady very vividly, who was of hysterical temperament, and had turned it to excellent account in disciplining her poor husband to her wishes and whims; suddenly there would appeared the characteristic chill followed by the usual fever. I did not happen to see her in these attacks, but accepted the accounts of herself and family as accurate. I am sorry to say we changed all the plumbing in the house; we sent her away. For a time she was better, but fell back to her old state soon afterwards. Finally suspicion was aroused, and I endeavored to be at her home at the time of the chill; this I was never able to do as the chill always antedated on the days I was prompt. At last I sent an assistant, armed with two thermometers, to her house early in the morning; the chill was due at eleven. Sure enough a quarter of an hour before this time it came on. My assistant placed one thermometer under the axilla, the other in the mouth. At the expiration of the phenomena, they persistently registered 98.6°. We found later she had obtained a copy of an old medical work containing a description of the symptoms of malaria, which she faithfully reproduced; for her own justice I will say, that she did not do this to deceive, for she believed firmly she was the subject of the disease.

Following repeated attacks of intermittent fever, a chronic condition is liable to be produced; enlargement of the spleen, the appearance of pigment in the blood, together with the associated clinical symptoms, make up the condition which we term malarial cachexia. In this condition marked anæmia makes its appearance; there are dropsical tendencies; dyspepsia appears, together with depression of the spirits. After a time, due to the portal stagnation, jaundice supervenes. To this pic-

ture we have occasionally to add the periodical occurrence of headaches and neuralgias.

In considering the treatment, it is generally better to commence with a laxative. I have found small doses of quinine muriate, given on an empty stomach, singularly effective—two to four grains given in the morning. I have seen it finally conquer a stubborn case of malarial cachexia. If this plan of treatment is not effective, attention can be turned to other sources. Pre-eminent among other therapeutic agents stands arsenic, but it is a slow remedy; it is the basis of most patent medicines designed for the cure of malaria, the so-called "ague drops" almost universally being simply Fowler's solusion. Fowler's solution in 3 to 5 drop doses well diluted, between meals, is, perhaps, the best mode of administration, though some practitioners go far beyond this limit; for example, the French surgeons in Algeria frequently run the dose up to a grain and a-half of arsenic in the twenty-four hours, though, of course, this dosage is reached only by a gradually ascending scale. The largest dose which I have ever given for this purpose is one-half grain, and was in the case of a medical student who had got himself up to the dose; and it finally broke up an obstinate chronic malarial cachexia; but such doses are not at all safe to begin with. In considering the condition of the blood, pale and anæmic in character, we can see that iron is excellent for alleviation. For the action of the skin, hot baths can be ordered—Turkish, Russian, or those modified by order. Many years ago, in reading the account of Sir Samuel Baker's journeys in Africa, I was struck by one of his statements; as he is a physician, his testimony on such a subject is naturally more accurate. His party was distressed by the giving-out of quinine; they felt that "African fever," which meant death, stared them in the face. In this dilemma they were advised by a native chief to try steam baths made by the action of hot water on the castor oil plant, which proved most effectual, as they suffered no more from malarial fever. Hence in all treatment of malarial cachexia, baths are a valuable adjunct. Small amounts of brandy, or whisky, for the stimulant action, are occasionally indicated; also good nourishing food, especially of an animal nature. Of the many other remedies, Florida dogwood, salines, acids, I will not speak, as medical literature is filled with such history; one of the most curious of these is the use of spider's web.

In cases of enlarged spleen, with or without dropsy, there are one or two remedies which command our confidence irrespective of general treatment. Pre-eminent among these is ergot given hypodermatically, if it produces no irritation; otherwise (especially in children) internally. 20 to 30 drops of the fluid extract should be injected every day or two, or manifest doses internally twice daily. I have found nothing superior, as it acts on the blood vessels, contracting their muscular walls; it is better than inunctions of biniodide of mercury or potassium iodide, which have been strongly recommended. I will now pass from the discussion of intermittent fever and the more blurred types of malaria to another periodic fever, malarial in its origin, but *remittent* in character.

When I began practice 40 years ago, remittent fever was among the common diseases, just as typhoid fever is now, and most prevalent in the Autumn; but now, accepting the statements of any practicing physicians especially in our cities, it will be discovered that its appearance has become the exception, its place being largely usurped by the intermittent type, and no cases seen, as a rule, save in highly malarial districts. As it represents a higher grade of malarial poisoning and impression, its disappearance is due to the hygienic improvements made in our country in the last 50 years. It is wrong to suppose that it is limited to the United States, as it still reigns in Italy (in the great Pontine marshes,) in Russia, in India, in South and Central America, in Australasia, and above all in Africa. As remittent fever is an expression of highly concentrated malarial poisoning, it will serve the useful purpose of showing the results of such poisoning on internal organs. Malarial poisoning strikes the blood, hence in the circulation is found the small hæmatozoa, the corpuscles of Laveran, and scattered masses of pigment. Secondly, the enlargement of the spleen comes on more rapidly, and the organ becomes of an olive, chocolate, or bronze hue, due (microscopically) to the presence of broken down blood and pigment; this color which is thoroughly characteristic, is observed in the liver also, were is as well, general congestion of the vessels. The stomach also exhibits in marked degree symptoms of catarrhal inflammation, being red and highly congested.

Now as to the symptoms: They begin at once as a rule, without marked prodromes, and the chilliness, yawning, and goose flesh of the intermittent form are wanting; there is at once distinct disturbance in the system. A chill is manifest, with a rise of temperature to 104° or 105°; this chill usually is not long, is followed by fever of great intensity with burning skin, intense headache, throbbing vessels, mental dullness, and even delirium: the pulse is bounding, showing there is great disturbance of the circulation; at the same time nausea and gastric irritability appear, and vomiting and coated tongue are common. After 12 to 18 hours of this fever, the longer time being the more usual, a great change takes place. The patient bursts forth into a profuse perspira-

tion, his temperature drops down two or three degrees, he feels more comfortable, his headache and gastric symptoms disappear; in fact everything except a moderate fever, points to apparent convalescence. Unfortunately this favorable condition only lasts a few hours, when a fresh chill breaks out, the high bounding pulse is reproduced, and there is general recurrence of all the symptoms. Usually, on the ninth day, convalescence actually sets in, when complete apyrexia may be noted, or the fever may become of an intermittent type. Again, the definite character of the condition may be lessened; there are no recurring chills; the type has become blurred,—not in remission or exacerbations, but in the chills themselves; the fever has become a continuous fever with marked exacerbations.

The proximity of the liver to the stomach, and their mutually engorged condition, accounts for the frequent attacks of jaundice that come on, not early in the disease, but towards its middle, and moderate in amount. The character of the stools, owing to the defective action of the liver, is black, tarry, and offensive; extreme constipation exists. All this, however, disappears after the ninth day.

Another termination of remittent fever is as follows: The temperature remains more continuous, the patient picks at the bed clothes, his tongue becomes furred, there is a change to the typhoid state; this constitutes the so-called typho-malaria — a most unfortunate name, as there is no such thing as typhoid fever produced by malaria, but is either the condition mentioned above, or typhoid fever modified slightly by being produced upon a malarial subject.

The diagnosis of remittent fever is usually as follows: Intermittent fever differs from remittent in the nausea, vomiting, jaundice, and headache, in the temperature range and difference in the preliminary symptoms; the characteristics of typhoid also serve to distinguish that disease. One is far more apt, owing to the headache and delirium which are occasionally present, to mistake meningitis for remittent fever, and *vice versa;* in both are observed vomiting, headache, and at first the throbbing vessels and tense pulse; but in cerebral disease there is persistence of these symptoms, while in remittent they vary. Again, the high temperature is significant of remittent fever, for a temperature of 104° or 105° is not observed in meningitis; also there is a furred tongue in malaria, while in meningitis the organ may be clean, and the vomiting is due, as in other brain troubles, to sympathetic causes. In remittent fever the tongue is swollen, heavily-coated, and tooth-marked, and there are symptoms of acute gastric catarrh and jaundice. Those who practice in hot climates are often called upon to diagnose simple catarrhal jaundice from remittent fever. Bu the jaundice in remittent fever is never intense and is slow in appearance, whereas catarrha jaundice is likely to develop rapidly and soon become intense; above all there is no fever tem perature in the catarrhal jaundice, the pulse being slow-running and depressed.

In studying the prognosis of remittent fever it may be said it is one of those fortunate diseases that are immensely affected by treatment—moreover, the poison has been greatly modified in civilized communities; but where it exists under favorable circumstances, it is just as fatal as ever. Among the ignorant natives of Africa, there is a mortality of 70 per cent. whereas in the United States the mortality is but from 3 to 5 per cent.—certainly a gratifying instance of the results of medical study. This disease was the one feared by the Romans, as evidenced by Horace, who described the advent of Autumn with its "accompanying fevers and final wills and testaments to be opened," which serves to give an idea of the mortality in that period of the world. Charles V. died of this disease, as did also James I., and Cromwell.

In regard to the treatment: If there is time, give a cathartic; calomel followed by a saline sets the bowels going, relieves the irritability of the stomach, and the headache, besides preparing the system for quinine, though the selection of a mercurial for the cathartic is not absolutely essential. Again, to act on the skin, as the surface of the body is dry, and the fever arrests secretion, cold sponging is indicated.—My friend, Dr. Dixon, had enormous experience in South Carolina with the use of the cold douche, but now-a-days people are apt to object to such treatment, hence employ sponging; this object can be aided by the use of diaphoretics. For the throbbing headache and rapid pulse, aconite acts wonderfully; given in one-drop dose every two hours it produces marvellous effects. Cold on the head in the form of ice-bags relieves the headache; and if cerebral symptoms appear, the application of leeches can be used. For the relief of the gastric irritability, when the calomel is not sufficient, the combination of 10 to 20 drops of chloroform in conjunction with a small amount of morphia—say a fortieth of a grain every two hours—is often happy in its results. Sucking ice, mustard plasters on the stomach, the use of strong iced tea, are also useful agents which can be tried irrespective of the calomel. The diet also should be mild and bland, as there is present gastric catarrh,—chicken, tea, milk and water, light broths, oyster juice, are all good.

I have left to the last the study of quinine, the great remedy of remittent fever, because I wish it remembered that there are other indications beyond the application of this powerful agent, for the destruction of the malaria. The time at which it should be given is preferably

during the remission; in the high fever use other medicines. Every remission 12 to 24 grains should be given, and if the type is blurred, and doubt consequently exists about the time of the remissions, give quinine at once; do not wait; it is better to have a little more headache than to delay action. Give it in solution if the stomach will stand it, or in powder form, or freshly-made pills. Another way, not so good because the dose cannot be so accurately adjusted, is the use of suppositories, freshly made with cocoa butter; but it is best to calculate to give double the quantity than by the mouth.—I do not regard this method as preferable, but it is *practical*. Of the use of quinine hypodermically or by inunction, I will not speak, as such are not altogether practical.

After the attack is over of any of these forms of malaria, quinine, arsenic, and iron, must be judiciously used. Again, it must be remembered that there are violent congestions of internal organs; persistent headaches; injected eyes; depressed spirits—when laxatives and the bromides are indicated; also rest from work, especially from brain work, and occasionally the use of potassium iodide.

I will next consider the congestive form of fever, better known as pernicious malaria. This disease represents the most concentrated type of malarial poisoning, and is either intermittent or remittent in type; the more common form, however, is the remittent. This disease is not seen in localities where the ordinary forms of malarial fever exist, and with two exceptions, a child and a young woman, I have never seen a case which originated in Philadelphia or Pennsylvania, though many cases in practice are found, usually travellers, coming here, as we might say, just as the fever germs explode their force. Hence this is not a fever of moderate malarial regions; but in Tennessee, Georgia, Florida, Louisiana, Alabama, the Pontine marshes, Algeria, and Africa, are found the great regions where congestive malarial fever exists. That no case begins originally as a congestive malarial fever, is a safe statement to make. The first thing noticed are the phenomena of an ordinary remittent or intermittent fever, which becomes congestive or pernicious as the disease advances; in the second or third paroxysm of an intermittent the disease shows itself, or in the second or third exacerbation of a remittent fever.

Now, how is one to suspect the probability of a congestive fever which has not yet developed?

It is observed that the chill of the first attack is unusually long; that extraordinary high temperature follows this chill; that coldness of the extremities and signs of obstruction to circulation point to what is going to happen. The congestive phenomena differ according to the organ which is bearing the brunt of the attack. Take the most ordinary form of congestive type, and it is found that it attacks the gastro-intestinal tract; in Indiana we find the purest examples of this type. There is extreme vomiting; the expression of anxiety with discharges from the bowel are followed by collapse, not unlike the collapse of dysentery or cholera. In the thoracic variety which is next in frequency, shortness of breath, congestion of the lungs, blood-stained sputa and cough, are the distinguishing features. When the congestive phenomena is shown most clearly in the brain, the symptoms may be twofold; at once there is the appearance of dullness and dizziness; the patient is incapable of making exertion; his vital centres are overwhelmed. Or the patient may become intensely delirious so that it is difficult to hold him; I remember a medical student from Alabama who had the fiercest, wildest form of mania possible, and the case made a deep impression on my memory. His terrific cries and extreme excitement showed that his nervous system was in the highest degree aroused.

There is another variety of congestive malarial fever which is seen more in Algeria and Africa. The patient assumes a stone-cold temperature, his skin seems like marble, and yet while the surface is cold or algid, internally the temperature is high—a form that is nearly always fatal. A sweating variety exists in which the patient actually sweats away, which, I believe, is identical with the so-called sweating sickness of the Middle Ages. In the algid variety, it is clear that it is the sympathetic system which is involved, and in the gastro-intestinal form the solar plexus is involved; in the cerebral form, effusion frequently follows. After this congestive chill the patient recovers slightly and becomes in better condition; but a second congestive chill strikes the brain or lungs, when it is apt to prove fatal; at least the third attack has that result.

In studying the diagnosis of this severe disease, fortunately its coming on can be recognized somewhat easily; the coming storm is predicted by the first onset of the disease, and yet the trouble can only be suspected—we are not sure of our diagnosis until the actual appearance of the first congestive attack; but their is no other disease like it. The extraordinary temperature points to its existence, no matter what else may be suspected. The prognosis varies in accordance with the time the patient is seen. The disease is amenable to treatment, but without it, it is attended with terrible fatality; ninety-nine per cent. is the ratio of mortality in the untreated cases. With treatment, the prognosis depends whether it begun early or late. With early active treatment the great majority recover, but even then

we do not dare to hope for the absolutely favorable results that one has in intermittent and remittent forms. Data on the subject are hard to obtain, and misleading when obtained, but a rough statement that 15 per cent. of well treated cases die, seems to me nearest the truth.

In studying the treatment of pernicious malarial fever, it is almost superfluous to say that quinine in decided doses, given at once, is the only safe course. Do no wait for a remission or intermission, for it is impossible to know whether there is going to be such a thing. I will make in this rule a single exception in regard to the brain cases where a reaction must first be obtained. As I have said, quinine at once and in decided doses is the proper treatment. At least 40 grains should be given in such a way as to insure its absorption into the system—in solution, by the bowel in soft pills, or hypodermatically. Twenty grains, hypodermatically, is absorbed more promptly and thoroughly than 40 grains by the mouth, for the reason that absorption from the alimentary tract, by which the drug must get into the system in the other methods, may be totally abolished by the severity of the chill. Ordinarily we do not care to give quinine hypodermatically for fear of producing an abscess, but in this disease an abscess is of comparatively small importance, and it must be risked. I have found in my experience that the best form for this mode of administration is amorphous muriate of quinine, or the bromide of quinine. A preparation of the sulphate in tartaric acid, whereby the salt becomes a tartrate, is also sometimes used, but I prefer the amorphous muriate, as it is the most soluble, most pleasant in effect, and there is less risk of abscess formation; as inhalation of quinine has also been tried, though with no very great success. But this treatment is not all, although I admit it is the most important. If the patient is seen in time, give a hypodermic of morphine or pilocarpine, as these drugs will lessen the severity of the chill; and in the cerebral form, dry cups at the base of the brain are indicated; digitalis, for its action on the pulse, can likewise be employed. In intestinal cases, an old prescription, consisting of calomel, capsicum, and opium, is useful; in thoracic cases dry cups and digitalis for the faltering heart are needed; in algid cases friction, hot alcohol, capsicum, turpentine, anything to overcome the intense coldness, can be employed;* in the sweating cases, ergot and atropia are indicated in addition to heavy doses of quinine.

There is a congestive form of malarial known as "the yellow disease," and is a malarial fever with hæmaturia,—a form that is spreading rapidly in this country, especially in North Carolina and Alabama. It varies from the ordinary congestive type in certain peculiarly symptomatic details. It begins as an ordinary intermittent or remittent fever; in the second paroxysm the congestive symptoms make their appearance as violent fever, nausea, vomiting, then suddenly, as with the twinkling of an eye, jaundice supervenes, hence its name, which is unfortunate as tending to confuse it in the popular mind with yellow fever. There is another peculiarity in this disease, in that at the same time with the appearance of the jaundice, hæmorrhages from the lungs or bowels, and especially from the kidneys, ensue; the latter is evidenced by dark colored urine. In six specimens of urine in cases from Alabama, North Carolina, and the Eastern shore of Maryland, all from patients who recently presented themselves at my clinic, the urine contained great quantities of blood; great quantities of hæmoglobin and altered pigment were present, and, save in one solitary instance, some actual blood corpuscles were found; the blood under the microscope showed itself to be in various stages of dissolution. Now happens the most extraordinary phenomenon of the disease. In the remission of a remittent type, more rarely in the intermission of an intermittent type, the blood disappears from the urine as if by magic, the yellow color in the skin disappears, and with this, go all the other symptoms. A patient who, a few minutes before was extremely prostrated, vomiting, passing bloody urine, and extremely jaundiced, rapidly becomes convalescent, and remains in this condition for a length of time varying according to the type of the disease, whether it is quotidian, tertian or quartan; in the meantime, there may be some albumen in the urine, and some yellowness in the skin. Then once more the attack comes on; this time the kidney falters, secretion is partly arrested, the patient becomes comatose and lies in great danger. The third attack is liable to prove fatal if the second has not killed the patient. The diagnosis of this yellow disease from other forms of malaria is made by the existence of colored yellow skin and the hæmorrhages. At first glance this differentiation from yellow fever is not so easily made; but in this yellow disease there is a temperature extraordinarily high at the onset; it is not so high in the beginning of yellow fever. Yellow fever again consists of one paroxysm; the hæmorrhages occur from the stomach,—the so-called "black vomit,"—while hæmorrhages from the kidney are rare and form no essential part of the disease. The yellow of yellow fever is not pure jaundice, but is due to the alteration in the condition of the blood. More striking is the intermittent hæmorrhage in the yellow disease. Intermit-

* A prescription greatly in vogue in Central America and the United States of Columbia is an ounce of quinine in ether and capsicum, applied on flannels beneath oiled paper to the epigastrium.—Ed.

tent hæmaturia of a periodical form is a malady which may be confused with this yellow disease, but is a not often seen in this country. It is found in the Isle of Mauritius and the Indies, is not malarial, has no high temperature, and no jaundice, and is due to parasites in the kidneys; it is rather difficult to explain its periodicity.

The prognosis of yellow disease is the same as that of congestive fever—it is good if seen early and actively treated; the actual mortality, I believe to be about 50 per cent. The treatment consists first in thoroughly cleaning out the intestines—10 grains of calomel followed by a saline relieves the congestion and clears the upper bowel. Next restrain the nausea and vomiting, which by so doing checks the tendency to hæmorrhage. A colleague and friend of mine from North Carolina has relied greatly on the use of sulphuric acid in these cases, and he claims that following its use there is very little renal hæmorrhage and less jaundice; he gives the dilute acid in five drop doses every two hours. Another remedy of Southern origin, for use more after the hæmorrhage has appeared in the urine, is the tincture of chloride of iron in 10 drop doses, given in ice water, every two hours. These I believe to be the two best remedies with special action. The use of ergot has not been as successful as it was supposed it would be. Mild drinks and dry cups over the kidneys remove partially the tendency to congestion. Of course the use of quinine and morphine, as indicated in congestive fever, is imperatively indicated.

PHILADELPHIA, PENNA.

PSYCHIATRY IN ITS RELATION TO MEDICINE.*

BY PROF. VON KRAFT-EBING.

One may at various clinics have had opportunity to examine the individual organs, as affected by disease, and to acquire skill in proper diagnosis and treatment, but in the pressure of study, will scarcely have had leisure to form a conception of the whole economy of the patient.

"*Mens sana in corpore sano*" is an old precept, and its truth will prevail in all ages. It is no mere hypothesis, but one of the realities of experience, that in all severe, aggressive, chronic or acute affections of the body, the psychic functions of the patient become more or less involved; and every practitioner of experience will have the wisdom to weigh well this factor, and to share the conviction that not alone the examination or the diagnosis,—which, with our present auxiliaries, is so simple a matter—not alone the writing of a prescription is the chief task of the physician, but, also, that he must do justice to the morbid psychic symptoms of the patient, and exercise all the influence of a moral therapy. Only in this way can he completely fulfill his mission and satisfy his patient.

And after we have acquired some experience in the wide domain of medicine, we are amazed by the potency of the moral and psychic influence of the physician at the bedside. Then for the first time do we comprehend the effects which the confidence of the patient in his physician can produce on the condition of the former. In this respect, I could give a wealth of illustrations taken from daily experience. It will suffice, if I mention the frequency with which hæmoptyses are wont to cease as soon as the longed-for physician appears; his very entrance into the sick-chamber calms the excited action of the heart and tends to bring about the possibility of a rapid thrombosis of the bleeding vessels.

I believe that the psychiatric clinic is that spot where the psychic aspects of disease may be studied with convenience and leisure. In practice one may readily convince himself that in all chronic diseases, as also in acute febrile processes, the psychic function of patients are disturbed, and many points of view, at once interesting and novel, will be revealed to the medical man who is versed in the laws of psychiatry and knows how to interpret and weigh these phenomena. It will be impossible for him, however, to penetrate into the psychic phases of the morbid symptoms with a large number of patients, who are briefly dubbed nervous, or classified under certain heads, as neurasthenic, hysterical, and hypochondriacal. The number of these unhappy subjects has in modern times grown into legion, and they form a very considerable quota in practice, with respect not only to the urban physician whose intercourse is with the higher classes, but also to the practitioner in the country, in the village, in manufacturing districts where the population has deteriorated from poverty, from rachitis, from scrofula, from defective nutrition, from unsanitary habitation, etc.

"These diseases are to be cured, not by physic, but by the physician"—an utterance of Mead, a well known English physician, which deserves emphasis. In all these diseases the psychic side has been the first to become morbid, and he who has not possessed and utilized this knowledge will never achieve satisfactory results with such patients.

But aside from these requirements, it is the appropriate mission of scientific investigation to take cognizance of, and to weigh, the elelementary psychic disturbances, which occur so frequently in focus-like affections of the brain and in diseases of the spinal marrow. No one will ever be able to properly diagnose the

*Translated expressly for Medical Age, by Mr. Jos. Helfman, of Detroit.

fever of an organism lapsing into inanition (you can never properly weigh the rapid and often very important changes of "humor") the manifold modifications which consciousness and the energy of consciousness undergo in such patients, if he has not acquired a fund of psychic truth beyond a knowledge of those elementary disturbances which present themselves as so-called phenomena of compulsion, as pathological effects, as morbid modes of reaction from alcohol, as symptomatic complexities of an apoplectic attack, etc.

The study of the psychically diseased, moreover, will prove of value in adding to experience and knowledge of a vast number of characters in our present Society, who, to be sure, are not designated as mentally unsound, but are not to be regarded as "balanced"—who show various defects of moral and intellectual personality, and are distorted and perverse in their modes of conduct, feeling, and thought. The physician must understand human nature; he must know the character of his patient. The due observation of such anomalies is profitable and grateful after we have acquired sufficient knowledge of the psychically diseased, in whom naturally these anomalies are distinct and pronounced.

Thus it is seen that the region to be traversed is not to be observed from the point of view of a special science or of a so-called specialty, and that it is desirable, even necessary, to the education of the physician, that he make the psychic features of a suffering patient the subject of investigation, and that he render himself conversant with their manifestations.

And even in restricting ourselves to the narrower province of true psychiatry, in which the study of the mentally diseased patient is the design, and in which the possible conditions are considered, under which the *restitutio ad integrum* of the perturbed functions is achievable, valuable points of view will be revealed to the practitioner. It is a great blessing that such affections are not so commonplace as bronchial or gastric catarrh, but in view of the far-reaching consequences of the disease, instances must be weighed, not counted.

A psychosis is something very different from any disease in the domain of internal medicine. It penetrates deep into the social existence of its victim; it seriously menaces his future and that of his family; it leads to incalculable social complications and consequences; it changes his social position by modifying his entire feeling, thought, and conduct.

Mental disease is so heavy an affliction that every means should be employed to reduce to a minimum the frequency of its attacks. If we look about in our present Society, we find it sadly deficient in the prophylaxis of these diseases—the greatest scourges of human existence. The public is as yet unenlightened as to the essential conditions of psychic equilibrium, and we see, moreover, that there are unhappily too few physicians who, in their capacities of family confidant and teacher, might fulfill the mission of guarding the public from injury, and thus protect a large number of human beings from mental disease. How little does the public of our day concern itself with the laws of heredity which play so prominent a rôle in intellectual aberration, with natural selection in the true sense of the the term, with the consummation of marriages in healthy families and the avoidance of any union with a diseased partner! No one takes thought of these things. The same indifference is exhibited by the Society of our age—dearly to its cost—to the dangers which the physical and mental powers must suffer from alcoholic excesses, and I have no hesitancy in asserting that fully 20 per cent. of all mental disease, as observed in the asylums, is due to immoderate indulgence in spirituous beverages, to say nothing of all those cases in which the misuse of stimulants participates in the development of psychoses and forms a weighty link in the chain of causes. These together would comprise 25 per cent. of the mentally diseased, and in this estimate I do not consider those individuals, mentally and morally deficient, who drift about in Society as drunkards, and become the objects of medical treatment only on the occasions of alcoholic excess, or of an attack of delirium tremens, or of a conflict with the law through criminal conduct. The prophylaxis of these maladies is a goal of the future, which shall be readily achieved when the knowledge of these diseases becomes the common property of physicians and of the wider circles of general Society. Many a life, bearing some psychical abnormality, has gone down irresistibly to mental ruin, because the germ of the disease, present even in early youth, and discoverable by the practiced eye in the first stages of development, was not recognized, and not duly weighed in such a manner that by proper education, by bodily and mental discipline, as also by the correct choice of an occupation, such individuals might be protected, and thus the disease, later to break forth, at least retarded.

This duty of preventing mental diseases devolves upon the physician as family confidant, and this reason alone would justify the demand that every physician acquire the general truths of psychiatric knowledge.

In former days, it was the general belief that psychiatric science need not of necessity become the common property of all physicians, because Society cherished the prejudice that mental disease could not possibly be anticipated, and that the developed affection could not be cured. This has now been clearly recognized as a fal-

lacy, and experience has proved in hundreds and thousands of instances that the sooner a diseased condition receives proper treatment, the greater are the chances for favorable issue. I shall not inflict statistics, but only emphasize the important truth that the favorable season for the cure of a disturbed mental condition is a rather brief one, and the period during which treatment enjoys a prospect of success, may, according to circumstances, be one only of weeks, or of months at most. Hence it is necessary that the diseased be properly recognized and considered at the outset. We are not to console ourselves with the fact that here and there are to be found specialists who recognise the disease in the first stages of development. The public turns, first of all, to the family physician, and it is only after he proves unable to rescue that a specialist is called in counsel. The seasonable diagnosis of such a disease is the task of the future physician, and it will devolve upon his knowledge and ability to avert unspeakable evil from his patients and their families.

In this respect, there is still much cause of complaint. With certain praiseworthy exceptions, the knowledge of psychiatry in medical circles is by no means so general as is desirable. Only too often, for example, is a dementia paralytica long mistaken for a harmless exhaustion of the brain, and in the interval the patient given ample time and opportunity to injure his material interests and to ruin the future of his family, until this ominous disease breaks out in full force. It is often taken for hysteria, for hypochondria, for chlorosis, or melancholia, and the patient is sermonized on account of his indecorum, or at least improperly treated or neglected, until the gravity of the situation is revealed by some fatal performance or an attempt at suicide.

From these few examples, which are of everyday occurrence, it will be seen how responsible, how onerous, and also how grateful, is the task of the physician, after he acquires knowledge in this province, and then recognizes the insidious approaches of mental disease and is able to properly weigh the beginnings of its evil.

From these few facts it may be assumed that the study of psychiatry in both the phases which I have outlined—namely, in its general bearing as an integral part of general medicine, and as a special field of medical investigation and treatment—is a very important and grateful part of the science of medicine, and that it is an error and a prejudice to assume that psychiatry is a remote domain or a special science.

In the diseased conditions, however, we have to deal not only with the morbid state of a definite organs, but with diseases of the individual, for the organ which is here affected, profoundly modifies the mental personality of the patient in all directions, and completely changes his attitude toward the external world. This part of medical study is specially important, so far as it concerns the determination of the mental condition of certain individuals who have committed crimes. The mentally unsound stand outside the pale of the law, inasmuch as the penal code of every civilized country has long given expression to the view that when a person of affected intellect commits any punishable act, he is not to be punished. How important then the relations between law and medical jurisprudence in the form of applied psychiatry, which here arise—how responsible toward the law is the diagnosis of the morbid condition, and how responsible the situation of the physician who must declare whether this deed was done, *possibly*, *probably*, or *certainly*, in a disturbed condition of intellect.

Our laws relieve no physician from the duty of rendering such delicate diagnoses, whether in the capacity of medical witness, or of expert, and it is easy to perceive the importance of the interests involved—on the one hand, the reverence due to the law, to truth and to right,—on the other, the honor of the family and the life of the accused. All this depends upon the accuracy with which the physician makes diagnosis of such a mental condition.

The mentally unsound occupy an exceptional position toward the law in a further respect. A man who acts, thinks or feels, abnormally, cannot possibly protect his interests as can a normal person, and under certain circumstances may endanger his property, and even the existence of his family; the fellow-citizens of such a man can have no confidence in his acts, and frequently enough physicians, in their psychiatric office, are called upon to express opinion whether such a man is capable of performing his duties, or should be declared incompetent and a guardian appointed on the ground that he no longer posseses the mental and moral qualities indispensable to the management of his own affairs. This is also a difficult and responsible duty, and out of the multitude of mercantile and social obligations and contingencies, equally exacting tasks may arise to confront the medical man. The questions: Shall this man be retained in office: May he marry; May he close a contract: Is his will valid before the law—are all suggested in the same manner. Not less difficult and responsible is the question whether an individual, once declared irrational and incompetent, who now seeks a restoration of his competency, is to be re-invested with his liberties as a citizen. Here we have to deal with a question of recovery; in the first instance, with a question of disease. One may soon discover what excessive, almost abnormal cunning, such patients, despite the gravity of their disease, are capable of exercising in the way of dissimulation and concealment of their maladies.

Another aspect of the subject is the fact that such a patient may become dangerous to himself and others. The question may arise, whether we have the right—whether we are in duty bound—to confine such an unfortunate in an insane asylum, lest he may do injury in his disease. Confinement in an asylum is a very serious infraction of the liberties of the individual, and great experience is needed to avoid error, and to obviate danger at the right time, and, on the other hand, not to be deceived respecting the morbid condition by permitting the members of the family or others to magnify trivial or transient symptoms into veritable psychoses.

During the course of the last few months, may, perhaps, have been observed the repeated clamors of the daily press against depriving normal individuals of their liberties. Manifold and severe reflections have been cast upon the asylums, upon physicians, and upon the judiciary; terrible tales have been told of the conduct of many alienists who have unjustifiably robbed numbers of their freedom and legal right, and have undermined the honor and existence of families. These accusations have aroused undeserved excitement amongst the laity.

I can, however, give the definite assurance that the persons from whom such accusations have emanated, were really irrational at the time that I had occasion to see them, and were in urgent need of confinement in an asylum. Throughout Europe, everywhere, the investigation of alleged instances of illegal deprivation of freedom has never had result other than the complete justification of the physicians involved. Insane asylums properly managed and conducted, are humane institutions in the truest sense of the word, and the physicians employed in such are fulfilling their onerous and responsible vocation with all conscientiousness and devotion.

BERLIN, October, 1890.

KOCH'S NEW COMMUNICATION ON THE TREATMENT OF TUBERCULOSIS.*

During the last International Congress at Berlin, I made mention of a means whereby I succeeded in rendering animals proof against the bacillus of tuberculosis, and even arrested the tuberculous process in those already affected. We are now repeating these experiments in human subjects.

Had it been left to me, I would have preferred to complete my experiments before giving to the public, and have first thoroughly studied the method and laid down exact rules concerning the fabrication of the agent on a large scale. But, despite all the precautions taken, this matter has been so much talked about, with so much exaggeration, and so little regard to scientific accuracy, that it seems advisable to set the medical profession right as to the actual state of the question. I cannot yet say much about the method, and am therefore obliged to leave entirely to one side more than one important question pertaining thereto.

The remedy is a limpid, brownish, liquid, which does not decompose until diluted. In order to prevent decomposition, it is necessary to sterilize after dilution, and keep in a flask stopped with cotton; or it may be diluted with a 5-per-cent. phenic acid solution. But despite all, the action of the dilute liquid, whether sterilized or prepared with phenic acid, seems to be enfeebled at the end of a short time, therefore I make use of solutions freshly prepared.

The remedy, in order to obtain a precise action, must be injected under the skin. We have made use of a rubber ball syringe, easily kept aseptic by cleansing with absolute alcohol. I believe that it is owing to antiseptic precautions that we have never observed suppuration, although more than a thousand injections have been made. We chose the skin of the back between the shoulder blades, and the lumbar region, because in these regions the injections are almost painless, and do not provoke local reaction.

We have from the beginning observed that the human subject reacts against this agent in a manner different from that manifested by the Guinea pig, which proves we cannot from the result of experiments made on the animal concluded they will be identical in man. We can in a perfectly sound Guinea pig make a subcutaneous injection of 2 cubic centimetres of the undiluted liquid, and even more, without obtaining any perceptible symptom, while in healthy man, a subcutaneous injection of 0.25 cubic centimetres of the undiluted liquid produces considerable reaction. In comparing these figures with the weight of the body, we find that one fifteen-thousandth of the quantity which has no visible action on the Guinea pig, suffices to produce an energetic action in man.

In order to appreciate the symptoms produced by an injection of 0.25 c. centimetres in man, I made an injection in my own arm. Three or four hours after there was twinging pain in the limbs, disposition to cough, dyspnœa—symptoms that increased rapidly; during the fifth hour, a very violent chill lasting almost an hour, and at the same time nausea, vomiting, elevation of the temperature to 39.6° C.; at the end of twelve hours, abatement of all the symptoms. The next day the temperature was normal; for several days I experienced heaviness and lassitude in the limbs, and a

* Translated by Dr. E. P. Hurd, Newburyport, Mass.

little painful redness around the point of injection.

In the healthy man, the minimum dose is about 1.00 cubic centimetre of a solution obtained by diluting the original liquid to 1 per cent. With this small dose, the individuals experience slight pain in the limbs and a temporary lassitude; some a temperature of 38° C. The most important of these effects is the specific action of this remedy on the tuberculous processes, of whatever kind they may be.

While it is seen that the healthy man does not react, or only slightly, to the dose of 1.00 centimetre, the same is true in the ill, providing the latter is not tuberculotic. But once a tuberculous subject is injected with 0.01 centimetre, we obtain energetic reaction, general and local. The dose for children of 3 or 4 years is 0.001 cubic centimetre; in infants which are feeble, the dose of 0.0005 c. centimetre secures energetic but not dangerous rection. The general reaction begins with a fever, is almost always ushered in by a chill; the temperature rises to 39°, even to 40° and 41° C.; at the same time, we observe a propensity to cough, pain in the limbs, great lassitude, often nausea and vomiting; in some, there is a slight jaundice, in others an exanthem on the chest and neck resembling measles. The access begins 4 or 5 hours after the injection, and lasts 12 to 15 hours. In exceptional cases, the attack is less intense, and when over, the patients generally declare they feel better than before.

The local reaction is best observed in patients affected with lupus. In these, the injection produces alterations which manifest the specific anti-tuberculous action of the remedy. Some hours after the injection at a point far removed from the parts affected, and before the chill, the region of the lupus begins to turn red and swell.

During the fever, the swelling and redness increase, and to such an extent that the lupus tissue becomes brownish and necrotic. The intensely swollen and brownish spot is surrounded by a white edge about a centimetre wide, which, in its turn, has a bright red zone. After fall of temperature, the tumefaction diminishes little by little, and may disappear at the end of two or three days. The lupoid foci are covered with crusts formed of oozing serum drying in the air, that become transformed into eschars that are spontaneously detached at the end of 3 or 4 weeks, presenting (sometimes, even after a single injection), a smooth red cicatrix. Note, that the alterations described are exclusively limited to the regions affected with lupus, and that the smallest nodosities, equally take part in the process, and become visible by reason of the swelling and change of color, while the tissue in which the lupoid processes terminate, undergoes no change.

The action of the liquid in tuberculosis of th lymphatic glands, of the bones, and of the joints, is less striking, but still perceptible to eye and touch; we observe in these cases tumefaction and augmentation of pain, and at the surface, redness.

The reaction in the internal organs is not apparent, unless we would refer to it the augmentation of the cough and of sputa in patients who have for the first time received the injection. We are then justified in assuming that in these patients take place modifications similar to those observed in lupus: we have noted these phenomena of reaction in all the tuberculous patients in whom we have made injections. These always manifest the same action, hence I believe in the future they will serve as a means of diagnosis.

By means of this liquid, we will be able to diagnosticate tuberculosis where it has not been possible heretofore: affections of the glands, latent tuberculosis of the bones, doubtful tuberculosis of the skin, etc., will be easily recognized as processes of true tuberculosis. In cases where the pathological process seems to be extinguished, it will enable us to ascertain if the extinction is really complete or if there still exist foci which may give rise to a new outbreak of the disease. But the importance of the remedy, from a curative point of view is much greater than from the standpoint of diagnosis.

I have said that the lupus tissue, after the diminution of tumefaction and redness consecutive to the injection, is more or less destroyed and disappears. Sometimes this process displays itself in such a way that the affected tissue mortifies immediately after a single injection, and is ultimately detached. Again, there seems to be instead a sort of atrophy or liquefaction of the tissue, and we have apparently to do with a process which requires repeated injections. I cannot at present say exactly in what manner these processes take place, the necessary histological examinations being lacking, but what appears to be proved is, that we have to do with destruction of tubercle-bacilli in the tissue; only that containing bacilli is affected. In such tissue we see considerable tumefaction and redness, on which depend, without doubt, certain modifications affecting profoundly the nutrition, so that mortification supervenes. This necrosis takes place more or less rapidly according to the manner in which the tissues are affected.

The fact that the liquid mortifies tuberculous tissue, and acts only on the living tissue, explains a very particular quality of this agent, namely, that we may inject rapidly increasing quantities. One might be disposed at first to

attribute this to the organism becoming accustomed to the remedy, but such is negatived by the fact we may augment the doses in the course of three weeks to five hundred times the first quantity; this cannot then be considered as the effect of habit, for such a rapid adaptation of patients to a medicament is without a parallel. The better explanation is, that in the beginning there is a large quantity of living tuberculous tissue, and that consequently a small dose of the active substance suffices to produce an energetic reaction. Now, as by each injection a certain quantity of tissue capable of reaction is made to disappear, we will require still increasing doses in order to obtain the same degree of reaction as at first. At the same time, I grant that to a certain point the patient becomes habituated to the remedy.

From the moment that the tuberculous patient, treated by constantly increasing doses, manifests only a reaction as feeble as that which is observed in the healthy, we may admit that all the tuberculous tissue susceptible of reaction has ceased to live. Consequently, while there are still bacilli in his organism, in order that he may be protected against new infection, it is necessary to continue to employ slowly increasing doses, and make interruptions in the treatment. The future will demonstrate if this view, and the conclusions I derive therefrom, are just. Down to the present I have made my experiments on this basis.

In lupus patients, we inject 0.01 c. centimetre, let the reaction go by, and at the end of one or two weeks again inject 0.01 c. centimetre, and continue in this way until the reaction becomes more and more feeble; and finally cease treatment altogether. Thus, in two patients with lupus of the face, the diseased region became covered with smooth cicatrices after three or four injections; the state of the other lupus patients also underwent improvement in proportion to the amount of treatment; all had been affected for several years, and rebellious to numerous methods of treatment.

We have treated in this same manner cases of tuberculosis of the joints, of the bones, of the glands. The success obtained has been the same as in lupus-patients—rapid amelioration in recent and light cases, slow amelioration in grave cases.

In the greater number of tuberculous patients, the conditions present themselves somewhat differently. Patients affected with pronounced pulmonary tuberculosis are much more sensitive to these injections than those suffering from surgical tuberculous diseases. We soon noticed we obtained in such an energetic reaction after the injection of 0.002 and even 0.001 cubic centimetre of the liquid. But in beginning with this minimum dose, one may soon augment rapidly the dose, until in a short time the phthisical bear the same doses as others.

If the injection is followed by rise of temperature, we inject every day the same quantity, till there is no longer a reaction; then inject 0.002 centimetres, till this is no longer followed by reaction; and continue in this way, augmenting each day the dose by 0.001 centimetre, or at most 0.002 to 0.005 cubic centimetre. In my opinion, this is the procedure to be adopted in patients who have little strength, for it enables us to administer the necessary doses almost without fever.

Some phthisical patients whose strength was good, were treated by doses immediately elevated or rapidly increasing, and it seemed to me that a favorable result was the more quickly obtained. The action of the liquid was so marked that the coughing and expectoration, after a slight increase as the result of the first injections, went on diminishing; then the symptoms decreased, to finally disappear altogether,—at least in cases where the course was particularly favorable; at the same time, the expectoration, heretofore purulent, became mucous.

The number of bacilli did not generally decrease until the expectoration had taken on a mucous aspect, then disappeared completely for a season, but again made their appearance from time to time until the expectoration ceased altogether; at the same time night sweats ceased, the general appearance improved, and the weight increased. Patients treated in the initial stage of phthisis in the space of from two to six weeks, were rid of all symptoms of their disease, so that we may consider them as cured. Patients with not large cavities in their lungs were considerably ameliorated; it was only when the lungs contained numerous cavities, that no objective amelioration was noted. As a result of these experiments, I am disposed to believe that commencing phthisis may be cured by means of this remedy. This conclusion is applicable, in part, to cases in which the affection is not too far advanced.

Patients with large cavities, and in whom there exist complications, will not obtain (save exceptionally) any lasting benefit from the employment of this remedy; at the same time, they may be temporarily ameliorated. We may conclude from this, that the original morbid process is influenced in the same manner as in the other patients, and that there is lacking in such only the possibility of eliminating the masses of necrosed tissues. Involuntarily we are led to ask if we may not still lend useful help to some of these patients so gravely affected, by combining the new treatment with surgical intervention of some kind, (like that for empyema for instance) or with other remedial factors? I would strongly dissuade from the

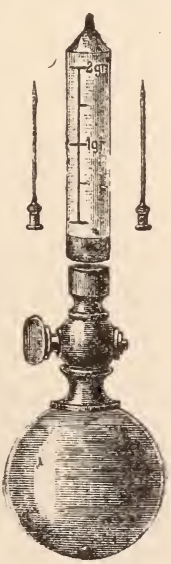
application of the remedy in a routine manner to all tuberculous cases.

The capital point in the treatment consists in its early application; the incubative period of phthisis affords the best opportunity for testing its utility, hence, we cannot too greatly insist on the necessity of establishing the diagnosis at as early a period as possible. Heretofore the search for the bacilli has been considered as a matter of diagnosis, without utility to the patient, and consequently too often neglected. This should be no longer permitted. Every physician who neglects to establish, by all the means in his power, and notably by the examination of the suspected sputa, and as early as possible, the diagnosis of phthisis, is guilty of a grave professional wrong, because on this diagnosis, a human life may depend. In doubtful cases, the physician ought, by means of a trial injection, to acquire a certainty with regard to the presence or absence of tuberculosis.

The new method will not constitute a real benefit to humanity until the day it shall be possible to institute at suitable time the treatment of all cases of tuberculosis, and 'till it shall no longer be permitted to neglected and grave forms to undergo development—which thus far have been inexhaustible sources of infection.

THE KOCH LYMPH SYRINGE.

We have pleasure in describing and illustrating for our readers Koch's New Syringe. For this description we are indebted to the New York Medical Record.



The instrument is worked by means of a rubber bulb, instead of the piston used in ordinary hypodermic syringes. The cylinder, which is glass, has a capacity of two grammes, is accurately graduated, pointed at one end to receive the hypodermic needle, and squared at the other to adapt itself to the bulb attachment. The cylinder, after being filled with the requisite amount of lymph, is then attached to the bulb, the stop-cock of which has been previously shut. After the needle is inserted under the skin, the stop-cock is opened and the fluid injected by pressure upon the bulb. The advantages claimed for the instrument are, its simplicity, efficiency and the ease with which it can be kept clean.

Correspondence.

"A GOOD MAN GONE WRONG."

Editor MEDICAL AGE:

I have watched with interest the growing disapproval of the medical profession of the sale of patent nostrums direct to the public. I do not think any medical man who gives this question the slightest consideration, can reach any other conclusion than that the sale of such nostrums is daily injuring public health and robbing properly qualified physicians of their just income.

Allied to these nostrums are many proprietary medicines which, whatever their excellences, are made from secret formulæ, which represent no improvement over existing remedies known to science and which establish themselves in popular favor by virtue of large advertising rather than from any inherent merit they may possess, and, moreover, create monopolies organized for emolument at the expense of science, and the educated physician who alone is competent to adapt medicines to the conditions of disease existing in the individual case.

It is a remarkable fact that this class of preparations is fostered unwittingly by many of the medical profession themselves, who thus assist at the obsequies of their own financial funeral.

Notwithstanding these facts, we still find some misguided journals that praise, in their editorial columns, patent and proprietary medicines, and claim that the Code of Ethics has nothing in it to forbid physicians prescribing or commending such products. Thus in the editorial columns of the Medical Mirror for November, 1890, we find such sentiments as the following:

We congratulate the profession and the pharmaceutical purveyors of the country, upon the fact that Bromidia, Tongaline, Listerine, Kathermon, Exalgine, Calvico, and kindred names, have all come to stay, and are ready to maintain their position upon the pharmaceutical horizon at no matter what cost.

It is to be regretted that the politic, talented, and successful editor of the Mirror, Dr. I. N. Love, should have made such a departure from the established views of that element of the medical profession who have its best interests at heart.

It must be that his sentiments were inspired by an impulse to defend those whom he regarded as friends, a fault that leans to virtue's side.

The fallacy of prescribing or encouraging the secret medicines of unknown composition is incisively pointed by out by another Southern journal, the Country Doctor, whose editor writes as follows:

We grant that there may be some meritorious proprietary drugs, and that, perhaps, by concentrating their manufacture in one hand, a better product may be obtained, but, notwithstanding this, the evils of the system overbalance what little good there may be in it. When every corner drug store has its own proprietary remedy on sale (which from present indications bids fair to be soon realized,) covered and protected by a trade mark, what will become of legitimate pharmacy? What will our Pharmacopœia then be worth to us? With a ready made prescription for "all diseases which human flesh is heir to," backed by testimonials of its efficacy from Drs. Tom. Dick and Harry, and all the allurements of the printer's art to make them go, the place of the physician becomes one of secondary importance. The laity are too ready to believe in cures; any way, they do not look at medicines as an intelligent adaptation of means to an end, but as a calling which, by the use of certain specific remedies or combination of remedies, cures disease. If they suffer from rheumatic trouble and such was cured by Puffemwell's anti-rheumatic elixir, they argue that all cases of rheumatism can and ought to be cured with the same remedy. They pay no attention to the details of the disease, but look at it only in the aggregate. They regard a certain class of symptoms as a disease, and expect a remedy built expressly to eradicate it, and proprietary nostrums foster this erroneous idea. Why should they observe the changing and varying prescriptions of Dr. A. for diabetes, when here is a prescription, ready bottled up, which the great Prof. B. says on the wrapper to be the best remedy he has ever used for diabetes.

There is another feature of this business that it is well to look to: How long will it be until it will be next to impossible for a physician to write, or a druggist to fill, a prescription, without infringing on the proprietary rights of some nostrum manufacturer and laying them both liable to an action for damages? 'Tis true that the protection of a trade-mark is only designed to secure whatever reputation an article may achieve under it, but, with the vast amount of capital which is being massed in this business, how long will it be until courts will look at the matter with a different pair of glasses?

Pharmacy is a branch of the medical profession, and under the control of its Code of Ethics. The profession has a voice in revising the Pharmacopœia and the power to say what shall and what shall not be officinal. It has no control over the proprietary medicine man, but he bids fair to control the profession. How? By the power of his money, and he knows just how and when to use it. Now we don't want it understood that we are charging the medical press of the country with pandering to these interests for the sake of their advertising patronage—we think better of medical journalism, as it now stands, than to believe the mass of them capable of such perfidy—but the time will come, if there is not some reform in this matter, when it will be controlled and run by creatures selected by the proprietary medicine interests. The time will come and it is not far distant, when it will be impossible for a medical periodical to live unless it panders to the interests of proprietary medicine advertisers. Why? Because they will so fill the demand for journals with publications of their own at a price which will practically preclude any other journal living. By skillful and unscrupulous combinations they will drive the legitimate druggist and pharmacist to the wall, or force them to handle their nostrums on their own terms. Only think, 'tis but a few years when such things were not countenanced by the medical profession, and there were only four or five concerns in the United States which manufactured and sold nostrums. These sold to the laity direct, without the potent cats-paw of the medical profession to aid their traffic. Now there are thrice three hundred in the field, representing millions of capital, and the business still growing. One concern manufacturing a preparation which is—if there is any truth in physiology—an arrant fraud, is said to be declaring dividends of *One Hundred Per Cent. per Month!* Men calling themselves scientific physicians endorse and prescribe it! And the laity buy it *ten times* of their own accord to where it is prescribed *once* by a physician!

You cannot allow one of the limbs to be crushed and the whole body not suffer. Pharmacy is one of the limbs of the medical profession, and as it is governed more by business methods than the rest of the profession, is better able to see or appreciate the tendency of this evil than the ordinary practitioner. They are already beginning to suffer and appeal to us for help. Shall we give it, or shall we go on deaf to their appeals until the great octopus crushes them and winds its deadly coils around us? Shall we be physicians, or nostrum mongers in a small retail way, bought up by cheap samples gratuitously distributed, and men whose highest sense of honor is to see our names on the wrapper of a bottle of "elegant" proprietary medicine? The issue is upon us and we have it to face. Men may "pooh! pooh!" and say that the danger is over-stated, or prate about their right to prescribe whatever they think best for their patients, and boast that they are encouraging the "advances of modern pharmacy;" but advances in this direction are a delusion and a snare. It is an advance in a backward direction that will inevitably prove fatal both to scientific medicine and scientific pharmacy.

SPECTATOR.

REPORT OF PROCEEDINGS OF THE HARLEM MEDICAL ASSOCIATION.

A New York correspondent sends us the following report:

Third regular meeting of the Harlem Medical Association, was held Wednesday, Dec. 3d, 1890, at 5 W. 125th St. Dr. E. Fredenberg, President, in the chair.

SYPHILITIC GUMMA OF THE ORBIT.

Dr. E. L. Cocks presented patient S., male, 30 years, truck driver, whom he first saw May 11th, 1889. Family history negative. Complained of numb feeling over right eye, including the temporal and malar regions; also tingling sensations starting just in front of the right ear, running across the nose, and including the right half of the upper lip. He did not feel the eyelid on winking, nor a piece of cotton passed over the cornea. The eye protruded so that it was on a line with the nasal bone. He first noticed that the right eye was growing larger three months previous to his first visit.

Could not close the lid over the right eye. On pressing over the right eye backwards and slightly downwards, a tumor as large as a hazel-nut could be felt. It was immovable and quite hard. Its depth could not be determined. The cornea was clear, but anæsthetic. The pupil was fully dilated, but did not respond to light. Vision in right eye entirely absent; left eye, $\frac{20}{20}$. The ophthalmoscope showed the veins much enlarged, but the arteries smaller. The optic nerve atrophied. He complained of nocturnal headaches. Six months previous to his first visit, his hair commenced to fall out, and he had sore throat. He denies all knowledge of syphilis, and claims never to have had an eruption of any kind. On examination, inguinal and cervical glands were enlarged, and a syphilitic ulcer was found on the leg. The tibia is painful on pressure. No signs of initial lesion. Diagnosis—gumma of orbit pressing on optic nerve and vessels. Mixed treatment instituted, pushing the iodide in hopes of preventing a complete degeneration of the optic nerve. After three weeks of treatment, headache better, appetite good, and he now feels the eyelid moving, also the cotton passed over the cornea. The vessels are now normal. The exopthalmia is much less. The tumor is sensibly melting away. By July 1st, the eye resumed its normal position. There was a small ulcer of the cornea, which disappeared under treatment with hot water and atropine. The sight has not returned. The nerve is in the same condition of atrophy as at the beginning of treatment. The patient does not know the exact period when his sight became lost in the right eye, but states his vision was good before his hair began to fall out. His business did not require accurate vision; if it had, he would have made the discovery earlier. Had the patient been placed under proper treatment when the vision first began to fail, it might have been restored. But under the circumstances, the result of treatment is good.

This case was discussed by Drs. E. Mayer, E. H. Cocks, R. Van Santvoord, E. Fredenberg, C. C. Meding.

ALOPECIA AREATA.

Dr. W. F. Martin presented photographs illustrating the following case: A boy 16 years, first came under treatment in June, 1890, suffering from alpecia areata, over a considerable space. Galvanism was employed three times a week for six weeks, with no improvement. Small fly-blisters were then employed, three at a time, to remove the epidermis. The electrodes were now dipped into a bichloride solution, 1-3000, and Galvanism employed. From time to time the position of the blisters was changed, but were kept near the centre of the denuded area. After ten days a very fine growth of hair began to appear, but only where the blisters had been situated. This growth gradually became more marked and abundant. In three months the case was entirely cured. It is remarkable that in ordinary cases the hair begins to grow from the periphery, but in this case it began in the centre, which was probably due to the treatment.

Dr. E. L. Cocks had seen a case in Dr. Buckley's clinic which had existed five months, the patient went to bed suffering from a headache, and on rising in the morning found two bald spots on the scalp, which were also anæsthetic. Carbolic wash had been used and the hair had appeared on one spot, but not on the other.

Dr. Meding called attention to the fact that one theory of the cause of alopecia was, that it was due to the accumulation of dandruff. It was commonly known that solutions of the bichloride of mercury were useful in this condition. Perhaps the solution had more to do with the cure of Dr. Martin's case than the Galvanism.

Dr. Knickerbocker inquired of Dr. Martin how he explained the fact that the hair came back over the whole surface, whereas the bichloride solutions had only been applied to limited areas.

Dr. Martin had no explanation to offer. He only knew that the hair commenced to show only on the surfaces denuded by the blisters and then gradually spread.

A CASE FOR DIAGNOSIS, EPILEPSY OR PERIPHERAL IRRITATION, WHICH?

Dr. G. H. Cocks presented to the association a patient 26 years old, a fireman on the Elevated Railroad. On Nov. 15th last, while at his work, he noticed a very peculiar numb feeling, extending over his entire left side of the body. This feeling lasted only a very few minutes. One week later while working on his engine he felt a severe pain on his left eye, as if a coal or a spark had entered it; the muscles of the jaw became contracted, and he fell forward unconscious, on the boiler, receiving superficial burns on the wrists of both hands. The engineer did not notice any convulsions, or frothing of the mouth. He was unconscious about half an hour. The important question is, as to diagnosis, and, if these attacks are likely to recur. He is in line of promotion, but does not feel disposed to become an engineer if these attacks are to be repeated.

Dr. Van Santvoord was inclined to consider the case one of epilepsy, having the usual aura, and loss of consciousness. There may have been convulsive movements present, although these were not recognized at the time.

Dr. Mayer was inclined to leave the diagnosis open, to see if there is a return of the attacks. In the meantime he did not consider it proper for the patient to assume a perilous position.

Dr. Malleson inquired if the urine had been examined.

Dr. Cocks replied that he regretted that he had not examined it. He had carefully examined the heart, *and found that normal.*

Dr. Van Santvoord had a case of convulsions occurring in a woman, suffering from albuminuria of pregnancy. The albumen was not found just before or after the attack. It appeared some 24 hours after the convulsive attack.

Dr. Fredenberg believed it impossible to make a positive diagnosis in the case under consideration at the present time. We must wait until the case develops. It is possible for an attack of this character to be due to some peripheral irritation. He related the instance of his brother—a young man 23 years old—who had two attacks of loss of consciousness with some convulsive movements lasting a few minutes. Vomiting followed. These seizures were due to the eruption of a wisdom tooth.

DR. LEARY, Sec.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

—PUBLISHED BY—

GEO. S. DAVIS, Medical Publisher, Box 470.

DETROIT, MICH., DEC. 10, 1890.

Editorial.

PUBLISHER'S ANNOUNCEMENT.

In these days of rapid progress and activity of research, the average doctor must have his pabulum predigested. It follows that the newspaper or the medical journal that is most popular with the majority of its readers is the one that confines itself to short articles and items, and presents essential utilizable facts rather than theories.

It is the object of the AGE to realize this modern standard of brevity, and it is believed that it owes its popularity to its efforts to boil down medical progress and news to the limits which permit of easy assimilation by the busy doctor.

With the January, 1891, number, the AGE will appear in new dress. The publisher has decided to print it henceforth in long-primer type, which will increase its size to thirty-two pages reading contents each issue, or sixty-four each month. We doubt if any other medical journal published, furnishes sixty-four pages of reading matter a month for $1.00 a year.

We wish to remind our present and prospective subscribers also, of the special advantages we offer for 1891. These advantages are only open for acceptance till Jan. 1st, 1891.

The special arrangement which we have made with the *Cosmopolitan* (for which see advertising page 7, this issue) presents very unusual inducements. That magazine is already recognized as one of the most interesting publications of the day.

Just think of what the combination means! 1536 pages of general reading matter by the ablest writers of the world, including over 1300 pages of illustrations that are unsurpassed in point of interest and execution, and 600 double column pages of medical information by the best foreign and native talent! Will it not pay you to send a subscription for the MEDICAL AGE and the *Cosmopolitan*, immediately? Remember, only $2.40 for the two.

By this means subscribers will virtually receive the AGE gratuitously, or both journals at the price of one.

DEPARTMENT OF PHARMACY, DETROIT COLLEGE OF MEDICINE.

The professions of medicine and pharmacy are so closely allied, and so mutually dependent upon each other, that it is matter for congratulation when the education of physicians and pharmacists can be carried on under the patronage of the same educational institution.

A common Alma Mater must lead to cementing the relations between doctors and druggists, and clearly differentiating the separate functions and field of labor of each—a consummation devoutly to be wished.

The tendency of such affiliation would be to relieve the strained relations that often now exist between these co-workers, and dispensing physicians and prescribing pharmacists would be regarded with disfavor by the great majority of both professions, and not be tolerated or encouraged by the public.

Westward the star of empire—and of edution as well—takes its way; and there is no reason why Detroit, with all its special advantages over other Western cities, should not become famed for its medical and pharmaceutical schools.

It is not optimistic to believe that the day is not far distant when adequate pharmaceutical education will be a *sine qua non* to practicing the art of pharmacy in all States, as it has now become in many.

The progressive management of the Detroit College of Medicine, recognizing these facts, and having in their handsomely appointed college building ample room, decided to establish a Department of Pharmacy. Their plans have now taken material form.

The laboratories and lecture room have been furnished with the most approved accessories for practical pharmaceutical operations, and thorough instruction will be given in the following branches: General Chemistry, Pharmaceutical Chemistry, Theoretical Pharmacy, Practical Pharmacy, Materia Medica, Botany, Pharmacal Jurisprudence and Ethics, and Analytical Chemistry.

The faculty embraces men whose intimate and thorough knowledge of the requirements essential to the successful practice of this profession in accordance with the highest modern standards, will enable them to impart its principles and practice in accordance with the most advanced methods. They are as follows:

Theo. A. McGraw, M.D., Dean.

J. E. Clark, M.D., Professor of General Chemistry.

J. LeRoy Webber, Ph. G., Professor of Pharmaceutical Chemistry.

Justin W. McEachren, Ph. C., Professor of Theoretical Pharmacy.

Leon C. Fink, Professor of Practical Pharmacy.

Geo. Suttie, Ph. C., Professor of Materia Medica and Botany.

E. C. Skinner, M.D., Professor of Pharmacal Jurisprudence.

ASSISTANTS.

Chemistry—Geo. E. Clark, M.D.

Pharmacy—H. L. Barie, Ph. C.

Materia Medica and Botany—D. A. Suttie.

The first session of the Department of Pharmacy of the Detroit College of Medicine will begin on the evening of Monday, January 5th, 1891, at 8 o'clock, in the College building, corner of St. Antoine and Mullett streets.

Students will be required to register at the Secretary's office, on or before Saturday, January 3d, 1891, and for further particulars, announcement, terms, etc., should write the Secretary, E. C. Skinner, M.D., St. Antoine and Mullett Streets, Detroit.

ARREST OF EVOLUTION VERSUS MATERNAL IMPRESSIONS.

Many of the readers of the AGE have manifested considerable interest in the cases of supposed maternal impressions not infrequently reported in these columns.

An article contributed by Arch. Dixon, M. D., after a very thorough review of the literature of this interesting subject, states his inferences as follows:

That in twins with a single chorion or anastomosis of placental vessels, one fœtus may become perfectly formed while the other becomes monstrous.

That the development of the abnormality in such cases depends on local anatomical causes, and is governed by definite laws.

That every known form of malformation in the human race has its analogue in the lower animals, birds, fishes and reptiles.

That arrest of development at any of the stages of embryonic life results, in part or in whole, in a permanent embryo of the stage at which the arrest took place.

From the consideration of all these facts, the subject is narrowed down to the following questions, viz:

Can the mother's mind produce the diseases of the uterus or its membranes which result in false bands or placental adhesions, which cause amputations and other deformities?

Can such impressions cause the umbilical cord to encircle and amputate a limb, or cause the death of the fœtus?

Can such impressions reach and act upon the newly-impregnated ovum so as to cause the double cicatricula to approach each other so closely as to result in union and double monsters?

That during the embryonic existence certain parts may be hindered or arrested in their development, while the other organs not directly connected with them may continue their evolution and become fully developed.

That any agency causing arrest of development of any portion of the fœtus must necessarily operate prior to the evolution of the part.

That the cause of the arrested development may be local or general, as injuries to mother's abdomen, diseases of the uterus or its membranes, hereditary transmission of deformity.

That excessive development of parts of the fœtus may obtain, resulting in nevi, aneurysms by anastomosis, supernumerary fingers and toes, etc.

That intra-uterine amputations are the result of amniotic bands, placental adhesions, fracture, or from constriction by a loop of the umbilical cord.

That amniotic bands or placental adhesions result from inflammation of the uterus, its decidua, or inflammatory diseases of the fœtus.

That the false membranes causing these amputations may be afterward absorbed, as also the amputated extremity.

That so-called double monsters are the result of the development of a double cicatricula on the blastodermic membrane of a single ovum.

That twins with a common chorion also result from the development of a double cicatricula on the blastodermic membrane of a single ovum.

That in either case there is always unity of sex.

That the nearness of the primitive traces to each other determines whether the impregnation will result in separate twins or a double monster.

Is it possible for maternal influence to destroy or deform one fœtus *in utero*, while another enclosed in the same membranes is uninjured?

A large per cent. of congenital deformities being shown to arise from local and other causes which can have no connection with maternal influences, it is improbable that at another time exactly the same deformity is produced by maternal impressions?

Is it reasonable that an intra-uterine amputation will be caused in one case by an amniotic band, while in another it may be caused by maternal impression?

When it is remembered that no nervous connection exists between the embryo and the mother; that there is no distinct blood communication; that the mother's mind can have no influence in causing pathological conditions which have been shown to be the cause of the malformation; that during the first week of fœtal life the ovum is surrounded by anatomical conditions precluding maternal influence—whereas it has been shown that the vast majority of malformations have their origin in that period of embryonic life in which the ovum is still homogeneous blastema,—when all these facts are considered, can any one believe that the mother's mind can change the conformation of the fœtus *in utero*?

If a man choose to maintain that a fossil oyster shell, in spite of its correspondence down to the very minutest particular with that of an oyster fresh taken from the sea, was never tenanted by a living oyster, but is a mineral concretion, there is no demonstrating his error. All that can be done is to show him that by a parity of reasoning he is bound to admit that a heap of oyster shells outside a fishmonger's door may also be sports of Nature, and that a mutton bone in a dust bin may have had the like origin.

Book Notices.

Medical and Surgical Monographs. Volume VIII, No. 2. November 1890. Paper 8 vo.; pp. 258. Price $1.00. Published by Wm. Wood & Co., New York.

This volume comprises "The Treatment of Uterine Affections by Massage," by Dr. Eugene Arnot; "Cosmetics a Treatise for Physicians," by Dr. Heinrich Paschkis; "Affections of the Stomach in Diseases of the Male Genital Organs," by Dr. Alexander Peyer.

The essay on Cosmetics comprises the chief part of the book, which will be appreciated by those physicians who desire to obtain an enviable reputation among their feminine patients.

The other two essays are brief but intelligible presentations of the topics they discuss. Extra medicinal means such as massage are growing more and more popular with the physician and patient, and it behooves the doctor who aspires to be progressive to be as familiar with these as he is with his Materia Medica.

Clinical Record For Patients. By Agnes S. Brennan. Boards. quarto, pp. 200. Price $2.00. Published by G. P. Putnam & Co., N. Y.

The object of this book is to enable both physicians and nurses to keep records of cases with greater exactness and care. The volume allows for a complete record of one hundred cases, though each space may be made to do double duty in many instances. Facing each case-record, is a blank for physicians orders and directions, while at the back are charts for hourly record of temperature, pulse, respiration, urine, etc., which are perforated for removal if desired. The volume is very complete and most neatly gotten up.

Physicians Visiting List for 1891. Leather; small 12mo. Price. $1.50. Published by P. Blackiston & Co., Philadelphia.

This is the fortieth year of publication of this list, which continues to hold its own in the face of the many, and sometimes more elaborate, competitors in the market. Aside from its objectionable form, which renders it liable to break down and crumple in either breast or hip-pocket, it has few superiors and fewer equals. Conveniently and concisely arranged, with excellent paper and binding, it is a very neat and attractive volume.

Text-Book of Materia Medica for Nurses. Compiled by Lavina L. Dock, Cloth, 12 mo.; pp. 201. Price $1.50. Published by G. P. Putnams' Sons, New York.

This is a work prepared by a nurse for nurses.

The outlines followed are those of the classes in Materia Medica as taught in Bellevue Training School for Nurses, and are designed for the conveying, in an intelligible way, the facts of which nurses should be cognizant.

Notes and News.

Spermine and Dr. Poehl.—Through the Pharmaceutische Zeitung, we learn the details of a legal prosecution in Russia which has assumed all the features of a sensation. A well known chemist, Prof. Dr. Poehl, accused his former assistant, Dr. Frenkel, of Warsaw, of having stolen 1.7 gramme of "Spermine" from his laboratory. Dr. Poehl had pretended to have discovered spermine, and in it an improvement upon Dr. Brown-Sequard's "Elixir of Life," and forthwith pounded the advertising drum with great vigor. One gramme of the spermine he sold at the enormous price of 88 roubles.

On the return of Dr. Poehl from attendance at the Berlin Medical Congress, he found that Frenkel had been experimenting with spermine, and decided not to support any further misrepresentations, finding that the panacea did not possess the chemical composition which should be found in true spermine. As Dr. Frenkel, in resigning his post, had also taken the liberty to appropriate 1.7 gramme of the substance, for the purpose of submitting it to the analysis of competent chemists, Dr. Poehl caused his arrest for theft. This case of "larceny" came up for disposition on the 4th of October. The little vial of "spermine" played the rôle of *corpus delicti*, and professors of medicine, chemistry, and physiology appeared as experts. They unanimously declared that the substance contained in the vial was not spermine, although Prof. Poehl had been selling it at 88 roubles per gramme. Frenkel had not taken the material secretly, but openly in the presence of others. The accused was acquitted, to the general satisfaction of all present.

True spermine is not a new discovery, and has been experimented with in the United States long before Dr. Poehl undertook such; hence his claims *in toto*, were unfounded.

How Sea-sickness is Produced.—A new theory of sea-sickness has been recently offered by M. Rochet. Accepting the view that the symptoms are those of cerebral anæmia, he accounts for this anæmia by the disorder brought about by muscular contractions through not being used to such sudden movements as those of vessels. He points out (we quote "Nature's" note on the subject) the enormous capacity of the reservoir formed by the muscular and peri-muscular venous system, and the considerable rôle of tonicity and voluntary or reflex muscular contractions in the action of emptying it; also the predominance of reflex muscular actions over voluntary, in keeping one's balance, and in most movements. In the movements of a vessel, the relaxation of muscular tonicity, and suppression of reflex movements, result in a

considerable increase of the peripheric reservoir, and, as a consequence, in cerebral anæmia. Hence it is that the descent of the ship is the most trying motion; and one can understand the benefit of the horizontal position, compression of the abdomen, fixing the body in a tight position, etc. Very young children are not ill, because the education of the reflexes in them is not yet accomplished; on solid ground they reel as on deck. Rochet's advice is, not to look to anæsthetics, soothing drugs, etc., for relief, but rather to muscular excitants, and above all to seek in voluntary movements a compensation for the reflex movements which are not produced. He recommends strychnine, veratrin, ergot, and aërated drinks.

Polypharmacy in Shakspere's Time.—

"Round about the cauldron go,
In the poisoned entrails throw.
Toad, that, under cold stone,
Days and nights, has thirty-one;
Sweltered venom, sleeping got.
Boil them first i' the charmed pot.
Fillet of a fenny snake
In the cauldron boil, and bake
Eye of newt and toe of frog,
Wool of bat and tongue of dog,
Adder's fork and blind-worm's sting,
Lizard's leg and howlet's wing.
For a charm of powerful trouble
Like a hellbroth boil and bubble,
Scale of dragon, tooth of wolf,
Witch's mummy, maw and gulf
Of the ravined salt sea shark,
Root of hemlock digged i' the dark,
Liver of blaspheming Jew,
Gall of goat and slips of yew
Slivered in the moon's eclipse;
Nose of Turk and Tartar's lips,
Finger of birth-strangled babe
Ditch-delivered by a drab.
Make the gruel thick and slab.
Add thereto a tiger's chauldron,
For the ingredients of our chaldron.
Cool it with a baboon's blood,
Now the charm is firm and good."

Liabilities of Patients.—Mr. A. M. Hurlock, an attorney of Baltimore, is engaged in an attempt to get a bill through the Legislature of Maryland, which shall render a married woman's estate liable for medical services rendered to herself or to her children. Every now and then rich or well-to-do women with worthless husbands, obtain under the present law the medical services of the doctor without compensation; and we think that a law such as proposed will materially help in stopping one of the leaks which waste the stream of nutrition running into the lean professional purse. We trust that he may be successful, and that his example may prove contagious. The principal section of the proposed bill is as follows:

Section 1. *Be it enacted by the General Assembly of Maryland*, That married women shall be jointly liable with their husbands for medical services rendered to such married women or their children, that they may be sued jointly with their husbands for such services, and that judgments obtained in such suits may be a lien on their separate property. —*Medical News.*

A New Clinical Phonograph.—Dr. J. Mount Bleyer, of New York City, has for the past two years carried on experimental researches in the use of the phonograph for the recording of voices of singers, characteristic coughs of the different throat and lung affections, normal and abnormal respirations, etc. These records can all be preserved for future references. As aids in teaching, and object lessons in diagnosis, these illustrative phonograms are no doubt of scientific value. A repetition of the experiments which formerly were done with the Edison phonograph and utterly failed to give the result necessary for practical use, were made with a new invention of Lieutenant G. Bettini. The Bettini recorder and reproducer is so accurate in reproducing the quality, pitch, and intensity of a record, that it will become a very useful apparatus. Through these additional perfections in the micro-graphophone of Bettini, he was able to fulfil his wishes. His intention is, within a few weeks, to give to the profession a valuable machine for aiding clinical studies.

Do You Rizzle?—Do you rizzle every day? Do you know how to rizzle? One of the swell doctors in town says that it is the most wonderful aid to perfect health. "I masticate my food very thoroughly at dinner," he says, "and make sure to have my family or friends entertain me with bright talk and plenty of fun. After dinner it is understood that I am going to rizzle. How do I do it? I retire to my study, and, having darkened the room, light a cigar, sit down, and perform the operation. How to describe it I don't know, but it is a condition as nearly like sleep as sleep is like death. It consists in doing absolutely nothing. I close my eyes, and try to stop all action of the brain. I think of nothing. It only takes a little practice to be able to absolutely stifle the brain. In that delightful condition I remain at least ten minutes, sometimes twenty. That is the condition most healthful to digestion, and it is that which accounts for the habit animals have of sleeping after eating. I would rather miss a fat fee than that ten minutes' rizzle every day."—*Chatter.*

An Operation for Prominent Ears.—Undue prominence and turning forwards of the pinna, is a very unsightly deformity that is only with difficulty overcome by the methods usually employed. Dr. Ely, some years ago, treated a case of this kind by removal of an oval vertical segment of the pinna. But Dr. W. W. Keen, of Philadelphia, has improved upon this by removing an oval piece of the

skin of the back of the ear, and cutting a vertical notch only in the cartilage. The skin wound is then closed with fine sutures, when a bend occurs in the pinna where the cartilage has been notched, and so the prominence of the ear is remedied. The advantage of this plan is, that it leaves the ear without any scar in front —without any visible scar, in fact. The case in which Dr. Keen did this operation is recorded, and the patient figured in the Transactions of the Philadelphia County Medical Society. The operation in that case was eminently successful.

An Improved Insufflator.—Alexander Duke, F. R. C. P. I., calls attention, in the British Medical Journal, to an improvement in Osborne's insufflator.

The powder is placed in a funnel-shaped cup attached to the rubber ball, and gently shaken till it disappears into the ball, when the end of the tube forming the handle or depressor is plugged into the opening of the funnel (which forms the powder receptacle). And while the tongue is held down by the depressor, the rubber ball supplies the air necessary to spread the powder where required, thus avoiding the unpleasantness and danger of applying the mouth to the end of the tube.

The Study of Medicine in Thibet.—The Buddhist Lamas' University, in the Trans-Baikal Province of Thibet, has a medical course of ten years. According to Nature, a traveller named Ptitsyn has returned from that country with a collection of medical books and drugs illustrative of the knowledge and methods of practice in Thibet. Mr. Ptitsyn remarks that he has found over one hundred diseases described in Buddist literature, and of these a mythical origin is ascribed to only two. Strictly medical subjects are not studied until the fifth year of the course, the first four years being devoted to the study of languages and of theology. The eighth year is devoted to astrology, and physiology is studied in the last two years.

A New Form of Nasal Tampon.—The Deutsche Medizinal-Zeitung, September 25th, 1890, describes a new form of nasal tampon devised by Ignazio Dionisio, as published in the Monatschrift für Aerztliche Polytechnik. By means of this instrument the nasal cavity can be tamponed, in case of hæmorrhage, without interfering with nasal respiration. The principle is that of the Trendelenberg canula for the trachea. A tube similar to a catheter, surrounded by an elastic rubber bag, is introduced into the nasal cavity, and the bag is distended with air or water. The bag adapts itself to the cavity, while the respiratory current of air passes through the tube. By this method septic decomposition of blood absorbed by the tampon is impossible.

The Hot-air Clinique of Paris.—A clinique was opened in the Rue de la Chaussée d'Antin, Paris, for the hot-air treatment of consumptives. Here men, women, and children, who have phthisis or are predisposed to it, may be treated free of charge. Ranged around the walls of the establishment are a number of small tables, on each of which stands an apparatus for heating the air by means of a large spirit-lamp. From each of the reservoirs is a rubber tube terminating in a mouth-piece, through which the patients inhale the heated air. The mouth-piece is double-valved, so that the expired air passes out without mingling with that delivered by the apparatus.

A Startling Class Experiment.—Dr. Kouchársky was lecturing to his class of medical students in St. Petersburg a few weeks ago, when, at the close of his remarks on the subject of acids, he poured into a glass, from a small bottle, a small quantity of liquid, and said: "Attention, gentlemen; in two minutes you will see a man die. Good-bye to you all!"—and drank the liquid. He took his watch from his pocket, for some seconds looked at it, and then fell to the floor lifeless, to the horror of his audience, who had not the slightest idea of his intent. Antidotes were then applied, but in vain.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senhor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14th, 1891. Essays intended for competition may be upon any subject in medicine, and must be received by the Secretary of the College, on or before May 1st, 1891. Dr. Charles W. Dulles, Secretary.

Charcoal Wafer Biscuits.—These biscuits, as articles of food, are not, from the nature of the active ingredient which they contain, very attractive in appearance, but they posses a flavor by no means unpleasant. Indeed, it would be difficult to say from the taste alone that they contained charcoal at all. There is, too, no objectionable feeling of grittiness experienced during mastication. They are adapted for use in cases of excessive acidity of the stomach.—London *Lancet.*

Therapeutic Brevities.

Apostoli's Method in the Treatment of Uterine Fibroids.—Dr. Hayes in Medical News says that one or the most clearly demonstrated facts of the Apostoli method, is that by means of it all uterine hæmorrhages, not puerperal, can be arrested.

All observers recognize that the positive pole is the one to be connected with the intra-uterine electrode. The reason for this is, that in electrolysis, especially when the electrolyte —the fluid undergoing electrolysis—is blood, the clot formed around the positive pole is small and dense, while that around the negative pole is large and flabby. Knowing, as we do, that oxygen, chlorine, and the acids, are liberated at the positive pole when electrolysis is performed on the tissues of the body, and also knowing that hydrogen and the alkalies are liberated at the negative pole, we have only to apply our knowledge of the action of the acids and alkalies on the blood to explain the observed phenomena.

The occurrence of uterine hæmorrhage does not contraindicate the use of the method.

One of Dr. Hayes' patients, suffering from menorrhagia, came to his office stating that she was drenched with the discharge, the hæmorrhage having occurred when she was some distance from her home. Dr. Hayes used the intra-uterine electrode connected with the positive pole, and passed a current of from 60 to 80 milliampères for eight minutes. The patient went home, a distance of three miles, and was in bed the remainder of the day. On the next day she was about the house and the flow had nearly ceased. This period was by far the least severe that she had had for several months, and the amount of time spent in bed was three-fourths less.

Treatment of Erysipelas.—Dr. Ulrich, a Danish military surgeon, having had eighty-nine cases of erysipelas of the face in young soldiers, published in a comparative table the results of the three different methods of treatment which he adopted, namely, the application of ice compresses, painting with pine tar, and painting with a solution of ichthyol in its own weight of ether and double its weight of flexile collodion. Thirty-three cases were treated by the first method; in twenty of these the erysipelas spread considerably, in four slightly, and in nine not at all. Twenty-seven cases were treated with tar; in fourteen of these these there was much spreading, in one a little, and in twelve none. Twenty-nine cases were treated with ichthyol; in these the spreading was considerable in eight cases, slight in six, and in fifteen there was none. The mean duration of the disease under the ichthyol treatment was 6.88 days, while under the ice and tar methods it was 8.33 and 9.3 days respectively. The relapses, too, were decidedly less numerous under ichthyol than under either of the other plans. Dr. Ulrich suggests that still better results might be looked for if the ichthyol were painted not merely over the affected parts, but over a considerable portion of the surrounding skin.—*Boston Medical and Surgical Journal.*

The Assimilation of Fats under the Influence of Tepid Baths in Healthy Persons.—Following the suggestion by Prof. I. T. Tchüdnovsky, Dr. Dr. A. P. Kravkoff, of St. Petersburg, has carried out five experiments on as many healthy young men (military *feldshers*, or medical assistants), his object being to elucidate the influence of tepid baths (at 35° C.) of half-hour duration on the assimilation of fatty constituents of food. In each instance the observations lasted twelve days, being subdivided into three equally long periods, during the second of which the person was taking one or two baths daily, all other conditions remaining equal from the beginning to the end of the experiment. The dietary consisted of milk, best butter, fatless meat, bread, salted cucumbers, tea with sugar, and drinking water. The proportion of fats (fatty acids) in stools was determined after Prof. P. A. Latchinoff's method. The research has proved that: (1) The baths invariably improve the assimilation of fats, the surplus oscillating between 0.555 and 1.049 per cent. [For instance, in the pre-bath period the subject was assimilating 94.972 per cent. of fats ingested; in the bath period, 95.975; and in the after-period, 96.021.] (2) They distinctly increase the bodily weight, the total gain (as measured in the after-period) varying from 424 to 1,782 grammes.

The Removal of Foreign Bodies from the Nose.—Recently a method, quite new to me, of removing foreign bodies from the nose, was decribed, I forget by whom. It consists in introducing the nozzle of an India-rubber bag full of air into the nostril which does not contain the foreign body. The nozzle should well fit the nostril, and can easily be made to do so by closing any remaining chink with the left thumb and forefinger, just as is done when administering a Politzer's inflation. The nostril containing the foreign body is left patent. Then the patient, if old enough to understand, is made to take a sip of water, and during the act of swallowing, the air is forcibly expressed from the bag, and as the communication between the nose and pharynx is shut off, the air returns by the other nostril and forces out the foreign body.—S. Johnson Taylor, M.D., M.R.C.S., in London *Lancet.*

[This is not practical with small children. Instead, syringing the nose through the patent nostril, with the head inclined slightly forward and the mouth open, answers every purpose. A large ear-syringe is best.—ED.]

Some Applications of Hot Water.—Headache almost always yields to the simultaneous application of hot water to the feet and back of the neck.

A towel folded, dipped in hot water, wrung out rapidly, and applied to the stomach, acts like magic in cases of colic.

There is nothing that so promptly cuts short congestion of the lungs, sore throat, or rheumatism, as hot water when applied promptly and thoroughly.

A towel folded several times, and dipped in hot water, and quickly wrung out and applied over the toothache or neuralgia, will generally afford prompt relief.

A strip of flannel, or napkin folded length-

wise, and dipped in hot water, and wrung out, and then applied round the neck of a child that has the croup, will sometimes bring relief in ten minutes.

Hot water taken freely half an hour before bed-time is helpful in the case of constipation, while it has a most soothing effect upon the stomach and bowels. This treatment, continued a few months, with proper attention to diet, will cure any curable case of dyspepsia.

Sulphonal in Chorea.—Dr. John A. Jeffries reports ten cases of chorea which were treated with sulphonal, either alone or combined with arsenic.

The doses in which sulphonal was employed were five or six grains for a patient of 15 years, and three grains for one of 4 years.

Of the ten cases, only five were of recent origin, and these all recovered within three weeks. In two of them arsenic had failed, in two it was never used; in the fifth, either arsenic or sulphonal alone failed, but when used together they quickly brought about an improvement.

As to the five cases which were of long standing, four were at the age of puberty; three got well at least for a month; in three, arsenic had failed; in two it was not used. Two did not recover with any treatment.

It is the opinion of the writer that sulphonal is to be regarded as a valuable adjuvant to arsenic. On sulphonal alone many cases are apt to grow pale, and show the need of a tonic; this want arsenic supplies, and at the same time affects directly many cases of chorea.—*Weekly Medical Review.*

External Applications of Chloroform.—Mr. Kitti suggested that, as such applications owe their efficacy to the slow evaporation of the chloroform, thicker media than the oil generally used should be employed so as to prolong the action of the drug. For three or four years he has made ointments according to the subjoined formula, and they have been used with good results by medical men:

(By weight.)
Chloroform, 1 part.
Wax, 1 part.
Lard, 2½ to 3 parts.

This is generally used for rheumatic affections. A harder salve is made with the same proportions of wax and chloroform, but with 1¼, 1½, and 2 parts of lard. The way to make the ointments is to melt the lard and wax in a stoppered bottle, and when cold stir in the chloroform with a spatula. The ointment is applied to the affected part on lint.

Santoninossime: A New Anthelmintic.—According to the observations of Dr. Coppola, santonin, even in large doses, does not kill ascarides. It produces in them convulsive movements, which cause them to loosen their hold, and thus easily to be swept away. Moreover, by its solubility, and the ease of its combination to form soluble compounds, santonin is capable of causing serious toxic symptoms. Santoninossime, on the other hand, is absorbed with great difficulty. It is administered in doses two or three times as large as santonin, and has been found to be absolutely harmless to the patient. Dr. Coppola uses it for two to four days in doses triple the strength of santonin, and finishes the treatment with a purgative.—*Annals of Pediatrics.*

Hamamelis and Alcohol in the Treatment of Nasal Polypi.—In an article on Treatment for the Radical Cure of Polypi of the Nose (Med. Record, Dec., 1890), Dr. E. Harrison Griffin, recommends spraying the nose night and morning with witch hazel or alcohol, at first dilute and gradually increasing to full strength, for at least one year after thorough removal of the polypi with the wire snare. He reports a number of illustrative instances, in one of which he removed fully three hundred polypi at various sittings, and in another more than one hundred in the course of a week. Caustics and cautery after extirpation he finds to be almost invariably followed by renewed growths.

Potassium Tellurate for Night-Sweats of Phthisis.—This salt has been used by Dr. Edmund Meusser in the form of a pill, in doses of one-third of a grain; in the majority of fifty cases this amount was sufficient. In a small number of patients who became accustomed to its use after a week's time, doubling the dose produced satisfactory results. The drug seems also to have a slight narcotic action. There were no toxic symptoms except slight digestive disturbances, such as a coated tongue and loss of appetite. It gives the breath the odor of garlic, though this is usually unnoticed by the patient.—*Wiener Klinische Wochenschrift*, June 5th, 1890.

Powder for Migraine.—The following powder is recommended in La Medicine Moderne for the treatment of migraine:

℞ Citrate of caffeine, 1½ grain.
Phenacetin, 2 grains.
Sugar of milk, 4 grains.
M.

To be made into one powder. This dose may be repeated, if necessary, in the course of two hours.

Black Wash for Rhus Poisoning.—Dr. J. A. Kite, states in the Medical News: I have had a very large experience with the dermatitis of rhus poisoning, and have never seen the application of "lotio nigra" fail in any stage of the disease. The part or parts may be freely bathed with black wash or wrapped in absorbent wool or cotton previously soaked in the solution. Immediate relief of subjective symptoms follows and the objective signs rapidly disappear. I have never seen untoward symptoms.

Castor Oil as a Menstruum for Cocaine.—To lessen the irritation caused by a cicatrix rubbing over a corneal ulcer, Dr. S. Mitchell, in Boston Med. and Surg. Jour., says he employed a solution of cocaine in castor oil; this relieved the pain and permitted the ulcer to heal after other solutions had been tried in vain.

Medical Progress.

THE PREVENTION OF SHOCK DURING AND AFTER OPERATIONS.—At the meeting of the American Surgical Association at Washington, in 1888, one of the subjects of discussion was the prevention of shock during and after operations.

The preventive measures proposed were simply such as any prudent surgeon adopts, viz.: Wait for reaction; calm the patient by a cheerful word; give stimulants before the anæsthetic; make anæsthesia short; operate as rapidly as practicable; dress quickly; avoid chilling the patient; after the operation apply dry heat; give liquid nourishment, with stimulants and laudanum, by the rectum; inject brandy subcutaneously; by the mouth give aromatic spirit of ammonia, and also black coffee and brandy; secure quiet, a horizontal position, and sleep; assure the patient that all is over and doing well. But in spite of all of these precautions it was alleged that secondary shock is very liable to occur and prove fatal.

Long since, impressed with the dangers of shock in many modern operations, owing to the long continuance of the anæsthesia, the liability to chilling and to depression from the loss of blood, I have been accustomed, where time will permit, to prepare patients for operations by stimulation to the extent of semi-intoxication. The results have been most happy, especially with feeble patients whose condition has rendered the propriety of an operation very doubtful. The course which I pursue is to give the stimulant in hot milk, beginning from eight to ten hours before the operation. Such quantities are given, and so frequently, as to secure a state of happy indifference to the operation on the part of the patient. If the operation is to be at three o'clock in the afternoon, I give directions to commence at six or eight o'clock in the morning. I prefer whiskey to brandy, owing to its slow and persistent operation over a much longer period.

If the patient is not accustomed to the habitual use of stimulants, I order an ounce of whiskey every two hours in half a pint of hot milk. If at twelve o'clock, or even at ten, sufficient progress has not been made to render it quite certain that semi-intoxication will be secured at the appropriate time, I give an ounce of whiskey in milk every hour during the remaining time. When the requisite effect has been obtained, the stimulant should be discontinued. In the case of habitual drinkers I have given two ounces every hour. It is important to give the stimulant in hot milk, which will furnish a large supply of easily-digested and readily-assimilated food, in a form most useful to sustain the vital energies during the critical period of a severe operation, or during a necessarily-protracted operation.

The patient thus prepared has suffused eyes, a flushed skin, a slow full pulse, and complete indifference to the operation, though perhaps previously extremely timid. Frequently he jests and sings when taken to the operating-table. He is warmly covered except on the part to be exposed for the operation. The assistant who administers the anæsthetic is directed to suspend it as frequently as possible. It will be a matter of surprise to anyone who first administers an anæsthetic to a person partially or quite intoxicated by the foregoing means, to observe how quickly, and without a struggle, the patient comes fully under its influence, and how small the quantity required. The pulse remains at its normal standard throughout the operation, the breathing is quiet and regular, the skin continues warm and red, and without unusual perspiration.

During the twenty-four to forty-eight hours subsequent to the operation, the condition of the patient remains good. The pulse continues full, the skin natural, the respiration undisturbed, and the mental state is that of indifference, or hopefulness. Neither primary nor secondary shock occurs under such circumstances.

To prevent chilling, the patient should not only be protected by warm clothing, but the wound be douched with hot water containing the disinfectant. The exact temperature of the water is a matter of much importance, as the term "hot" is indefinite and misleading. In the haste of an operation the hand is often employed to determine the temperature of the water. This test varies somewhat with different individuals, as one person will shrink from placing his hand in water at a temperature which another may bear with little inconvenience. I have frequently tested the temperature of water in which an assistant could thrust his hand, though compelled to withdraw it instantly. This temperature does not exceed 150° F., but more often is 145° F. The hand I regard as a sufficiently good test for a temperature of 145° F. to 150° F. Nor should I care to apply water at a higher temperature than 150° F. to the wound. The late Dr. Varick, of Jersey City, who urged the use of hot water, advocated using water "slightly" below the boiling-point on operation wounds. Water at that temperature would, however, be destructive to tissues, for in my experience water at a temperature of 150° F. will destroy living tissues if it is allowed to remain in contact with them. It can be used at this temperature as a douche only—that is, it must be dashed on the wound. When applied to a fresh wound the surface should be rendered of a dull-gray color. The patient is usually instantly aroused by the heat. The best method of applying the water is by pouring from a pitcher, but not continuously; it should rather be dashed into the wound so that it will penetrate every recess. The effect of the hot water is also seen in the arrest of all oozing of blood from the wound, and this arrest of hæmorrhage is permanent, and prevents secondary bleeding. The application of the dressings immediately follows, and as these consist of materials retentive of heat, there can be no chilling of the patient by the dressings.

During the past ten years I have pursued the above method of preventing shock, and in no instance has that complication occurred.—Prof. Stephen Smith in the *Medical News*, Oct. 11th, 1890.

THE LOCAL PARASITICIDE TREATMENT OF CANCER.—The nature and general appearance of cancer, more than of other tumors,

suggest a micro-organismal origin. This idea of the micro-organismal origin of cancerous growths is suggested to Poucel, Surgeon to the Marseilles Hospital (La Semaine Médical, September 10th, 1890), by several successful results obtained by him from interstitial injections of bichloride of mercury. This writer details seven cases of growths of a cancerous appearance which were treated in this manner. In two cases of undoubted cancer of long standing, and in persons of advanced life, the treatment was unsuccessful. Of the five successful cases, one, a woman aged fifty-eight years, without syphilitic, tubercular, or cancerous antecedents, or acquired syphilis, presented a large nodular growth of the left breast, with no retraction of the nipple or ganglionic enlargement. Several interstitial injections, the course of treatment extending over several months, caused the entire disappearance of the tumor, and the patient continues in a normal condition. Another case was that of a woman with a tumor of the right breast, which was large, hard, irregular, and ulcerating, and with a retracted nipple, but no glandular enlargement in the axilla. After a number of injections of corrosive sublimate the tumor disappeared, but the patient died several months later in an attack of angina pectoris, and no histological study of the case seems to have been made. The third of the five successful results was obtained in the case of a retired army officer, who was afflicted with a suppurative periganglionic inflammation of the groin. Upon incision there was found an enlarged, hard, solitary gland in the inguinal chain. The patient confessed to having had a hard chancre a number of years previously, and was placed upon anti-syphilitic medication; but the growth increased in size, became hard and nodular, and had the external appearances of an old inguinal hernia. After twenty-three days of bichloride injections (ten *séances*, injecting three milligrammes every two days), the swelling completely disappeared and has not recurred. A fourth successful case, the son of the last patient, presented several indurated glands in the groin, which in Dr. Poucel's opinion were of the nature of ordinary lymph-adenomata, and caused by toxæmia. They were of several years' standing, at first indolent and soft, recently hard, and increasing rapidly in size in spite of internal medication—chiefly iodide of potassium and quinine. A daily injection of corrosive sublimate solution caused their disappearance within eight days. The last successful case was not under Dr. Poucel's direct observation, and had been variously diagnosed by surgeons as hæmorrhoids, syphilomata, and cancer of the rectum.

Upon these seven cases rests Poucel's evidence as to the parasitic nature of cancerous formations. In two apparently unquestionable cases of cancer, death occurred, and from these, of course, no inferences can be drawn. Of the remaining five the diagnosis in three is confessedly weak, and apparently almost surely mistaken. Of the first two, while the local disappearance of the growth was apparently accomplished, in one the death of the patient within a short time from an attack of angina pectoris coupled with the lack of an autopsy, permits the suspicion of the existence of metastatic foci, angina pectoris being no rare sequel to cancerous generalization. Of these seven cases the last one alone seemed worthy of entire credence. It is unfortunate that no histological examinations were made in any of these cases.

The general history of the germicidal treatment of cancer is in accord with these results of Dr. Poucel, each successful report being counterbalanced by innumerable failures, and usually by the stigma of doubt. The local use in such cases of what are now known as antiseptic materials, dates far back in the history of modern medicine; and in Philadelphia the local employment of corrosive sublimate in these neoplasms was recorded as early as 1793 (Senter, Transactions of the College of Physicians of Philadelphia, 1793, vol. i. p. 245). The use of interstitial or parenchymatous injections was first suggested by Broadbent (Medical Times and Gazette, 1866, ii. p. 572), acetic acid being employed for the purpose; and since then various reports have appeared extolling the merits of this or that substance as an injection-material. The vast bulk of evidence as to these methods has been decidedly against any special parasitic cause of the disease. Whether the present suggestion leads to definite results, of course further experience must decide, the evidence in hand being of little value in the face of the mass of contradictory testimony.

Simple Method for Controlling Epistaxis.—Dr. W. W. Parker, of Richmond, Va., says, in the New York Medical Record, October 4th, 1890: The plan of arresting hæmorrhage from the nose, which I here describe, I have used for thirty years without one failure. When I first began to practice I used Bellocq's instrument, but found it painful, and, in small children, exceedingly troublesome of application.

My plan is not only effectual, but is easy of application and absolutely painless, and can be followed with the smallest patients. The little device which I use is made of fifteen of the long threads of patent lint, size three and one-half or four inches long, which I double on themselves and tie in the middle, and let one end of the string be six or eight inches long so as to pull the plug out when necessary. When doubled on itself it looks like a "comet" in miniature with a nucleus and thirty tails (or twice the number of threads used). A probe is pressed up against the centre, and it is passed back upon the floor of the nasal cavity and pushed on till you reach the posterior nares. This will be known both by the resistance and the length of the probe, or the depth which you have reached. Then slowly withdraw the probe and plug the anterior nares, and you have arrested the bleeding. These twenty or thirty ends floating in the blood at once coagulate it. The passage of the soft lint gives no pain whatever. In persuading children to submit to the operation, I often pass the lint up my own nose to satisfy them it gives no pain. If lint is not at hand I use the largest size spool cotton. The plug is removed in from twenty-four to forty-eight hours. It gives no pain and the patient is willing for it to remain. The other methods are all painful in execution, and the discomfort, while the plug remains, is very considerable.—*Medical and Surgical Reporter.*

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Original Articles.

FOREIGN BODIES IN THE AIR-PASSAGES WITH REPORT OF CASES.*

BY JOHN E. PENDLETON, M. D.

The perfect harmonious play of mechanism in receiving food the moment it is passed into the upper fauces, and the transporting it by one continuous involuntary act into the stomach, is security against frequent intrusion of portions of solids as well as liquids into the lower and upper air-passages. Paralytics, the demented, the aged, and children whose coördinating powers are imperfect, are most likely to become the victims of the accident while engaged in eating. In the greater number of cases that have come under my personal observation, as well as those I have found recorded in medical literature, the accident did not occur while eating, and in many of them the intruding substance was not alimentary. It is quite a common habit with children, and with some older persons, to hold in the mouth small bodies, such as bits of slate-pencil, coins, seeds of fruit, beans, grains of corn, pins, needles, etc., which in a moment of shock or alarm, may be suddenly transferred to the larynx or trachea. As will be seen, this was the manner in which the accident occurred in the most of the cases I report. Out of a great number of instances of foreign bodies in the nasal cavity that have come under my treatment, nine-tenths were in children under five years of age, who had playfully and ignorantly inserted them themselves. Some of them would go immediately to the nurse or mother and give information of what had occurred, but in others it was only found out by noticing obstruction in the child's breathing while asleep, and in some, not until an ozæna prompted the bringing of the child for treatment.

In one of these cases, a profuse, purulent and exceedingly offensive discharge had continued for nine months from the left nostril. It had been under treatment at the hands of a physician of good repute for strumous cachexia most of that time. Upon clearing the nostril, which was entirely denuded of its mucous membrane, and exploring the cavity, a dark looking body was discovered far back, entirely filling the cavity. I at first took it to be a gangrenous polypus, but when drawn out it proved to be a piece of coarse cotton rag, seven and a half inches long by one inch wide, that had completely tamponed that side of the nose. I was, and am still, unable to comprehend how a little girl four years old ever managed to get so long and large a fragment packed so firmly and so far back as that was found. Although the ulceration had continued so long, recovery was complete in a short time.

The foreign substances occluding the nose in most cases were without special interest. Several of them, like the one related, were brought to me on account of the discharge from the nose. They soon got well after the cause was found (a grain of corn, a bullet, a small acorn, cherry-stones, etc.) and removed. The only instruments I found necessary were, a small blunt hook, a scoop, and a pair of slender forceps, the first being of all the most available.

The lodgment of foreign bodies in the larynx is generally more instantaneously dangerous and distressing than if they pass lower down into the trachea.

A very peculiar and interesting case was brought to me in a child two years old, suffering with a large inflammatory swelling of the parotid gland, side of the neck, and head. The history given was, it had suffered three weeks before from an attack of croup that had come near suffocating it, and had continued distressed for ten days. Upon examination of the parotid swelling, I discovered a small area of fluctuation at its most prominent point, and punctured it with a scalpel, when there came into view along with the flow of pus, a hard pointed substance. Taking hold of the latter with forceps, I extracted a feather five and a half inches in length, which, being lodged at the larynx, no doubt had produced the supposed croupous symptoms for which the child had been treated three weeks before.

Mr. B—— stopped off at a "twenty minutes" stand for breakfast, and while hurriedly eating was suddenly seized with severe laryngeal spasm that came near ending his life on the spot. Recurrent attacks came on at short intervals of an hour or more, but finally subsided, so that he was enabled to take the return train, which brought him to his home near my office. Upon examination with head

*Read before the Southern Surgical and Gynæcological Association, Nov. 27th. 1890.

and throat mirrors, I discovered the intruder, which proved to be a bit of chicken bone, one inch and a third in length, a sixth of an inch in diameter, blunt at one end and broken to a sharp wedge-shape at the other. Its head was resting on the left aryteno-epiglotidean fold, while its point dipped backward and was buried in the tissue at the posterior side of the larynx. After two or three ineffectual efforts, I was able to seize and extract it with a pair of larynx forceps. The sharp point must have penetrated to a considerable depth into the walls of the larynx, for when I took hold near its free larger end it required decided force to disengage it, its removal being followed immediately by bloody expectoration. Recovery was almost immediate and without note, except that the sensation produced by the foreign body in the throat lingered for several weeks, and would recur upon taking slight cold.

In case three, an aged toothless man inspired a fragment of gristle of beef while eating, and fell dead upon the dining table. It was supposed by most of those who were present that he perished from apoplexy. The true cause of death was only discovered when the intruding substance was found, wedged in the larynx and upper end of the trachea, at the autopsy. In cases of sudden death, when the cause is not definitely known and has to be sought for by post-mortem examination, it would be well to remember the possibility of such an accident.

In most cases of instantaneous death from the introduction of foreign substances into the air passages, the intruding body has been wedged into the larynx in such a way as to cut off respiration; even after the substance has gained access within the trachea, death may occur at any moment by the entrapped body being forced upward from below by the current of air, provided it is of sufficient size to fill and lodge in the chink of the glottis.

The report of the following cases of foreign bodies in the trachea, though presenting nothing specially new, may, I hope, prove of interest in their variety, and as they have never been published, may at least add something of value in reckoning the results of operated and unoperated cases.

CASE I.—E. M., female, aged eighteen months, was brought to me by the mother, during the late war. The parent said she found the child choking when she came into the house after a short absence. After a hasty examination of the physical signs, it was easily determined the case was one of foreign body in the trachea. The suffocative paroxysms were so frequent and so threatening, and the mother so much alarmed, that I could not obtain any reliable information as to the nature of the inspired substance. Once, in the interval of rest, with my ear to the chest, I thought I observed that the respiratory sounds were louder in the left lung and almost wanting in the right but before I could repeat my observation another fit of asphyxia came on, and further delay was out of the question. Chloroform was given, and with the assistance of Doctors Darrington, of New Orleans, and Collins, of Alabama, the trachea was opened, when the seed of a watermelon appeared in the wound, and was extracted. The relief was instantaneous, and the wound healed by first intention.

CASE II.—Hettie H., aged seven years, returning home late at night from a children's entertainment, removed a large brass pin from her shawl and placed in her mouth while she proceeded to divest herself of other articles of apparel. She was taken with a fit of sneezing, in which the pin passed into the larynx, and finally into the trachea. Although the immediate symptoms were of the most distressing and threatening character, the suffocative paroxysms were followed by intervals of quiet, in which she only complained of sharp pain at the top of the sternum. When brought to me, a distance of fifteen miles traversed in a carriage, she was greatly exhausted. The laryngoscope could not be utilized on account of the now frequently recurring constricting spasms of the larynx. Cocaine had not then been revealed with its wonderful powers of obtunding local sensibility, and the acutely intolerant condition of the fauces forbade persistent efforts to locate the body with the mirror. Physical exploration was only valuable in a negative sense, as the air did not appear to be obstructed in its passage to either lung, and there were no abnormal sounds heard in the interval over the trachea or bronchi, except some rather loud moist râles that were general. The child continued to complain of pain over the trachea at the top of the sternum; suddenly the symptoms became more threatening, and the patient more rapidly exhausted. Tracheotomy was done under chloroform. The foreign body not appearing, search was instituted with a bent silver probe, when, fortunately, the pin was detected just below the thyroid cartilage, sticking fast, head and point, in the walls of the trachea. It was seized with a pair of forceps and pushed through the trachea to the skin, an inch above the upper end of the tracheotomy wound, the skin incised, and it then taken out head first. The wound in the neck and trachea refused for several weeks to heal, but finally closed, leaving an ugly cicatrix which slowly faded out, and the young lady, now eighteen, is a typical specimen of the far famed Kentucky beauty.

CASE III.—Mary T., aged six years, while running at play with some other children, had at the same time several grains of corn in her mouth. Looking back at her pursuers, she tripped, fell, and inspired one of the grains into her windpipe. The symptoms were at once so urgent that a physician was called, who insisted upon opening the trachea, but the parents obstinately refused to have it done. Day by day, for six weeks, the child continued to suffer dangerous paroxysms of suffocative cough. Bronchial inflammation with pneumonia in the right lung set up, followed by purulent expectoration, fever, and night-sweats, leading to pyæmia and extreme exhaustion. In this condition I was called to see her. The child had not been able to lie down for several weeks, but had been supported in a sitting

posture by the nurse holding her up by the arms. She could not tolerate pressure about the chest from any direction, even so much as pillows against her back while sitting. Knowing the warning of Gross and others of the danger of tracheotomy in such extremity, and feeling convinced of the certainty of a fatal issue within a very short time unless the offending body should be expelled or removed, I determined to urge tracheotomy as the last and only hope. The parents still held out against it, till I was about leaving to return to my home, many miles away, when they at last consented. The windpipe was quickly opened with the assistanee of Dr. J. W. Taylor, the attending physician. Upon the first expiration through the artificial opening, there poured out from within the trachea about two ounces of blood, as much more of fœtid pus, and following the latter the grain of corn, which had evidently been burrowing in an abscess that had formed about it. The fortunate discharge of the abscess at the moment of opening, remains to me unaccountable. Had it occurred before the operation, or at any time after I had left the house, the result must have certainly been fatal by suffocation. When the blood was seen to come up so rapidly, I immediately turned the child's face downwards with the head lowered, and in this position the abscess and trachea were so quickly emptied that respiration was delayed less than half a minute. Recovery was retarded by the abscess in the lung, which however finally healed up, and she is now in perfect health.

Case IV.—William C——, aged five years, returning from the garden with some butter-beans in his hand, placed them in his mouth in order to have the use of both hands in scaling a rail fence on the way. The top rail turned, he fell to the ground, and at the moment of shock inhaled one of the beans into his trachea. The immediate effects were described as "terribly distressing." Blood came from the nose and mouth, the face was livid, the eyes protruding, and the violent futile efforts at respiration left him unconscious at the end of each paroxysm. These suffocative attacks continued to occur until strength was exhausted. It was found that by holding him in an erect position he did not have the severe fits so often, and that they would pass off in much shorter time. He lived 25 miles away, and I did not see him until twenty-four hours after the accident. He had been kept constantly in a sitting posture by supporting his head and holding him up by the arms. He could not bear his chest to press even lightly against anything that might have aided in supporting him. With the assistance of Drs. McCarty and Wedding, tracheotomy was done under chloroform, and the incision held open with blunt retractors. The bean soon appeared advancing and retreating as it came up from below, but owing to the struggles of the patient and the large size of the foreign body, I failed to capture it. Finally a full inspiration carried it out of sight down the trachea, and almost immediately it was expelled violently, striking against the wall several feet away, bounding off on the floor. The wound was closed and dressed, and within a few days only a linear cicatrix remained over the tracheal incision. Some cough and bronchial catarrh continued for a week, finally giving way to perfect health.

Case V.—M. G., female child, aged eleven months. Telegram: "Come in haste. Child choking with something in its throat." I had but a moment in which to catch the train. Thinking that the trouble was in the larynx or œsophagus, I quickly packed laryngoscope, probangs, gullet forceps, and other instruments to meet the supposed emergency. When I reached the house, I found the patient an infant of eleven months, with a foreign substance in the windpipe. The symptoms were so urgent that there was no time for delay. The history obtained was, that at supper time the evening before the child was eating some fish with mashed potatoes, which the mother said she had carefully prepared and cleared of bones. While eating, it suddenly became choked, and the symptoms of suffocation were so alarming that a physician was called who failed to give relief. It was now so far exhausted that I feared it would perish before the trachea could be opened. Slight anæsthesia was obtained by chloroform administered by Dr. J. D. Maddox. The incision was quickly made, and four of the trachea rings divided. The terrible difficulty in respiration was at once relieved, but I could not discover any foreign substance in the trachea. Passing a slender probe upward from the wound, it soon came in contact with a firmly fixed body that grated under the touch. Owing to the small size of the trachea, I was unable to manipulate any of the forceps I had with me in seizing the intruder. By bending a delicate silver probe into the shape of a very small blunt hook, I succeeded in grasping the object within the curve of the hook, and had to use considerable traction to dislodge it. In fact, the force was sufficient to fracture the body near its middle, and the slightly larger part came out in the curve of the probe, while the smaller fragment was instantly expelled through the mouth by coughing. It proved to be a plate of bone from the head of a fish. It measured three-fourths of an inch long, one-third of an inch wide, and one-fourth of an inch in thickness, irregular, semi-lunar in shape, and quite rough on one of its sides and edges. The tracheotomy wound healed kindly, and the child was well in a few days.

Case VI.—This was a unique case, so far as I know, presented to me for treatment about two months ago. J. P., a young man, student at college, who appeared to be stout and in good health otherwise, had a chronic pharyngitis, for the relief of which trouble he was advised by some charlatan to use kerosene oil as a gargle. At the first experiment, almost a tablespoonful of this powerful irritant was inhaled into the trachea. The suffocative symptoms that immediately ensued were of the most alarming and distressing character. The violent spasmodic constrictions of the larynx only relaxed each time when life was almost extinct, to be renewed again and again. Bloody froth was blown from the mouth and nostrils; the eyes protruded; and frantic efforts to respire continued until he fell helpless and exhausted. Dangerous inflammation of the mucous membrane lining the air tract and cells was rapidly lighted up; œdema of the glottis came on; and but for relief obtained by

puncture, tracheotomy must soon have been the only hope. The broncho-pneumonitis continued for several days, the temperature reaching as high as 104.2°. It was not until the expiration of two weeks that he could speak above a whisper. He slowly recovered.

In the cases which are to follow, the intruding substances sojourned in the trachea until they were either expelled by coughing, or terminated the lives of their victims.

CASE VII.—W. McG., aged two years, was brought to me with a grain of corn in his trachea, three days after the occurrence of the accident. The physical signs and paroxysmal choking cough, together with the history, made the diagnosis certain. Tracheotomy was proposed and urged, but the mother would not yield to entreaty. She returned home, and the child died in her arms on the sixth day in a fit of protracted asphyxia.

CASE VIII.—John P., aged eighteen years, athletic son of a farmer, while gathering corn in a field endeavored to extract a cockle-burr from his mitten with his teeth. He succeeded in disengaging it, but in attempting to spit from his mouth a sudden inspiration carried it into the wind-pipe. His brother, who was with him at the time, described his suffering as the "most terrible agony." When I reached him, two hours after the accident, he was lying in bed, exhausted and partially narcotized by a dose of morphine that had been given him by Dr. J. W. Taylor, who had been called before my arrival. The countenance was anxious, pulse rapid, respiration asthmatic and labored. Aphonia was complete, which must have been the result of the injury done by the spines of the burr, for it was discovered to be movable, and could be heard changing its location. We proposed tracheotomy, and he would have readily submitted to the operation, but his mother indignantly refused. After three months of dreadful suffering that led to hectic fever, night-sweats, purulent expectorations, and extreme emaciation, he coughed up the burr and recovered.

CASE IX.—James G., aged eighteen, farmer's son, came to my office in the night with a cockle-burr in his trachea. He refused tracheotomy, went home and had a similar experience to that of the preceding case, except that the burr was not expelled till five and a half months had elapsed from the time it was inhaled.

The following case is interesting on account of the symptoms having been mistaken for those of an acute asthmatic bronchitis.

CASE X.—John T., aged three years, was playing on the floor with another child of his own age, while two gentlemen were sitting in the room engaged in a conversation. The mother of the children noticing that they were becoming boisterous, rushed toward them and said sharply: "You shan't make that noise." The children sprang up and ran in opposite directions, when one of them came with his forehead in contact with the knob of a chair. He fell upon the floor, and when taken up, was found to be livid in the face and struggling for breath. The acute distress continued until Dr. G., who lived two miles away, had been sent for and arrived; the Doctor did not suspect the presence of a foreign body in the trachea, but attributed the symptoms to shock from the blow of the chair-knob upon the head. He examined the chest, however, and gave an emetic, followed by tranquilizing potions containing opium. He made daily visits for three weeks, during which time the child continued to have suffocative paroxysms of coughing and the signs of bronchial pneumonitis, most pronounced in the right lung. The distress finally became less urgent, and although there was an occasional return of the distressing seizures, they did not last so long nor seem so dangerous as in the beginning. The patient was seen by several physicians in the meantime, and all agreed the case was one of bronchial pneumonia, principally located in the right lung. It was six weeks after the trouble began that I first saw him. After getting the history as above related, I made a careful physical exploration of the chest. When I first applied my ear over the middle and lower posterior portions of the right lung, the respiratory sounds were almost entirely absent, while over the left lung, loud puerile breathing attended with abundant moist râles could be distinctly heard. It so happened that a rather severe attack of suffocative cough, came on before I had finished the auscultation. When I came to apply my ear to the chest, after the distress had subsided, the condition of the two lungs was reversed; the respiratory sounds could now be heard over the left, while they were suppressed over the right lung. Change of the foreign body from the right to the left bronchus took place three times during the two hours that I had an opportunity to examine, and made several detours up the right trachea, falling back into the right bronchus between its journeyings over to the left bronchus. The distress in breathing was greater when the right side was obstructed than the left, and greatest when the foreign substance was coursing up and down the trachea. Although the diagnosis was entirely satisfactory, and the consent of the parents to any operation I might have proposed would have been readily obtained, yet I did not urge tracheotomy. My reasons for not doing so were, that although the foreign substance had remained for six weeks in the air passages, the condition of the child's lungs was better than it had been during the first week after the accident, according to the statement of the family physician, and that it was still improving so far as the physical signs of inflammation could indicate. The parents were informed of the nature of the case and requested to watch for the expulsion of the body. Within a few days after my visit, I received a letter from the father of the child enclosing a round body the size of a pea, which he said the child had coughed up the night before. It proved to be a native nut gall. It was almost perfectly round in shape, smooth on the outside except at the point it had been broken from the twig on which it grew, and almost as light as a bit of cork the same size. Its lightness accounted, no doubt, for its mobility in respiratory air currents. The spasmodic cough never recurred after its expulsion, and the pulmonary and bronchial troubles soon vanished.

CASE XI.—E. R., female child, two years old, inhaled a grain of corn at night, and, although the immediate symptoms were most distressing, after the first hour or two they became

less urgent. Only an occasional fit of coughing with dyspnœa continued to occur until I saw it, forty-eight hours after the accident. It was then sleeping quietly, with the respiration a little more hurried than normal; respiratory sounds in the left lung obtunded with loud puerile breathing in the right lung. The parents were opposed to any operation for its relief, but were intelligent people, and after I had explained the dangers of delay and given them to understand the doubtful prognosis in such cases when left to Nature, as well as the perils of tracheotomy, they agreed to leave the matter altogether to my discretion. It being late in the night, and considering the short, fat neck of the child in addition to the fact that it was then, and had been for the past six or eight hours, but little disturbed by the presence of the grain of corn, I left it and went to look after another patient. It was, however, with the understanding and full determination to return the next morning and open the windpipe. Not long after I left the house the child awoke with a fit of coughing, and suddenly expired, the grain of corn having wedged in the rima glottidis. Had I done as I have determined to do in the future, a life would have been saved, and I would not now be recriminating myself for failing to do my duty.

My reason for giving in detail the history of the manner in which the foreign substance was introduced in the various cases is, the importance thereof as a means of diagnosis. It will be noted that it occurred in a moment of sudden surprise or shock in a large majority of the cases. The five cases in which tracheotomy was performed, all recovered. Of the seven cases left to Nature, three recovered and four died. In those which recovered, the intruding substances in two of them were cockle-burs. They were finally expelled after long and anxious suffering, when the interstices of the spines of the burs had been filled and their ends covered with thickened purulent secretion.

In the case of the child with the oak gall-nut, smooth, round, light, and small as it was, it was not extruded until six weeks of anxious days and nights had been passed by the parents, during which the child might at almost any moment have perished from suffocation or inflammation.

There is no question as to the duty of the surgeon in the management of cases of foreign bodies in the wind-pipe. If the imprisoned substance is of sufficient size to endanger its becoming wedged in the rima glottidis, although the symptoms may not be threatening at the time, still the trachea should be opened without delay.

If the extraneous body be known to be so small that it can only be dangerous in consequence of the inflammation it is liable to excite, still the wind-pipe should be opened to obviate that result. I cannot conceive of a case in which it would be legitimate to leave to Nature the disposition of a solid foreign body either in the larynx, the trachea, or bronchi.

HARTFORD, KENTUCKY.

IS GONORRHŒA A CAUSE OF PELVIC INFLAMMATIONS?

BY J. R. BUIST, M. D.

Gynæcologists who have had much experience in operative work, and who have made known their views through periodicals and societies, are generally very decided in expression of the belief of casual relations between salpingitis and gonorrhœa. Pathologists are also among the advocates of this view. There are, however, a great many physicians and surgeons who either ridicule the idea, or combat it very strongly.

To assist in appreciating the existing divergence of opinion among even the best educated men in our profession, I will refer to the discussion held in the Philadelphia Medical Society in February of 1889, on the occasion of the presentation of a case with remarks by Dr. Joseph Price, on "Gonorrhœa and Diseases of the Uterine Appendages." Dr. Price maintained with great force that not only was there a causal relation between the diseases of the appendages and infectious "clap," but that it was the most frequent of all causes. Dr. William White, Dr. Stewart, and Dr. J. M. Baldy, in particular took part in the discussion, expressing views most antagonistic to those of Dr. Price. The drift of Dr. White's remarks were rather an attack upon what he styled "not only the extreme, but ridiculous views of Noggerath's," in a very illogical manner making it appear that the truth of the doctrine of gonorrhœal salpingitis depended upon Noggerath's position, which is not correct. Dr. Price had exhibited tubes recently removed from a woman who had contracted the disease eight years previously from her husband, to his personal knowledge. The wife had suffered all these years the usual succession of symptoms, and when laparotomy was performed, the tubes were found filled with pus. But the case seemed to make little impression. Prof. White seemed to take it for granted that no uterine gonorrhœa could exist without previous invasion of the vulva, urethra and vagina, in which I do not think he is sustained by the best observers. He also admitted that tubal disease was often seen in Almshouse patients associated with gonorrhœa, but thought it beyond belief that the better class of women were ever diseased in this way.

Dr. Baldy attempted to show that the gonococcus was neither the cause nor the criterion of gonorrhœa. To use his own words: "Pathological research and experimental investigation are clearly against it. There remains nothing but the clinical facts."

Dr. Stewart thought it an alarming doctrine that there should be such prevalence of these diseases among women, and evidently believed

that because in three instances he had passed "an aluminium applicator" through the uterine cavity into a diseased tube, that there would be no more need for the removal of the appendages.

During the past summer I had the good fortune to be present at the British Medical Association. At that meeting I listened to a communication from Dr. Bantock ("On the Importance of Gonorrhœa as a Cause of Inflammation of the Pelvic Organs")—prepared by special appointment, and supposed to represent the matured views of this distinguished gynæcologist. Dr. Bantock very decidedly differed from Dr. Wm. J. Sinclair in the positions advanced by the latter in his recent work on this subject, and quite ridiculed the doctrine of Noggerath of the contagiousness of old and badly-cured gonorrhœas. His position, according to my understanding, is, that this cause plays a very small share in the production of diseases of the pelvic organs. That in all "his practice of twenty years he had never met with a case unmistakably due to this cause." In concluding he summarized as follows:

My opinion, then—an opinion founded on my own observation—is, that the importance of gonorrhea consists in the fact that in a few, or limited, number of cases, it seems to be capable of producing most serious symptoms, rarely, however, terminating in death, and that this importance is diminished by the fact that such cases are comparatively rare.

This appears to me to be a remarkable paper—remarkable alike for the extreme views entertained, and for the manner in which they were supported. Why should Dr. Bantock base his opinion alone on his own observations when so many competent men are daily giving their testimony? And if Dr. B. had never seen a case unmistakably due to this cause, how could he from his own observations formulate such an opinion as that just quoted?

The first few speakers who followed seemed to agree with the essayist, notably Dr. Wilson of Baltimore, who declared that in a large gynæcological practice of very many years, he had never seen gonorrhœa create any serious disturbance in the female. A number, however, dissented from the doctrine, and took a moderate ground in opposition, notably Mr. Cullingworth, Dr. Edis, and Mr. Heywood Smith.

Reference has been made to the discussions in these two representative bodies, not so much for the purpose of criticism, but to illustrate the difference of opinion in the profession on this very important point of pelvic pathology; and probably there are hundreds of others who hold with Drs. White and Bantock. The reasons for this incredulity, I think, are several. First, there are some who confound the real issue with the extreme views of Noggerath's early publications, and appear to think the evidence of gonorrhœal inflammation of uterus and tubes exists only in that of latent gonorrhœa; others are frightened at the wholesale laparotomies of the present day, and apparently dread to admit there is any reality in the alleged prevalence of diseased tubes; while some want more evidence than clinical experience and observation admit of; others, again, may feel that it is very abhorrent to refined sentiment to think of our best women being the victims of such disorders.

So-called false facts and wrong inferences abound in our daily experience, yet when a large number of observers in different parts of the world, honest and intelligent, and using the same methods of research, all with great unanimity testify to the same state of things, while we may make some allowance for inaccuracies, we are bound to accept in the main their testimony, unless an equal number of facts in opposition can be presented, or a more plausible theory in explanation suggested.

I shall assume that it is at the present time an unquestioned fact that gonorrhœa is a specific, infectious disease; also that it is transmitted by contact, and that on certain mucous surfaces it proliferates and spreads with great virulence. It is also known that its peculiar habitat is the mucous membrane of the urethra, and of the vulva, the endometrium, and the conjunctiva. It is true that some bacteriologists consider a cylindrical epithelium incapable of supporting the gonococci; and if this should be proved, it would then be a reasonable explanation of the invasion of the oviducts during an attack of uterine gonorrhœa, to suppose the poisonous element to reside in the product of the growth and activity of this microbe. However, this statement in reference to the proper habitat of this coccus, has only been made by one or two observers, while there are many recent discoveries of its presence in the pus from pyo-salpinx. The invasion of the *vas deferens* and epididymis during attacks of gonorrhœa in the male, constitute complications that no one doubts have a causal relation with the specific urethral inflammation, and yet, from the absence often of suppuration in these tubes, is it to be inferred that the specific microbe could not be found? From the nature of the gonorrhœal infection, and from the special analogy existing anatomically between the oviducts and the vasa deferentia, and the connection the latter bears to urethral disease, one cannot reasonably assert that there is any antecedent improbability, or impossibility, of salpingitis arising from gonorrhœa in the female genito-urinary apparatus.

An important inquiry bearing upon the frequency of gonorrhœal salpingitis, and influencing the minds of many in accepting the existence or not of this disease is: To what extent does gonorrhœa prevail in the male and especi-

ally among married men?—A delicate question even in the abstract, and peculiarly so in the concrete. We all know, that gonorrhœa is exceedingly common among young men in all cities, so common that statistics are not worth offering on the subject; of how common it is among the married every practitioner can form some idea from what happens in his personal experience. It should be remembered, however, that when a married man has gonorrhœa, it is not to his family physician he goes, but to a quack, or often a druggist; and that from the too trivial importance both doctors and laity are accustomed to attach to "clap," men do not use the precaution against infecting their wives that they should. It is a matter of ignorance with many. Then, again, consider how many marry with uncured "claps," supposing them cured. In this way it may in part be realized to some extent that wives are frequently exposed to contagion.

Granting that the position set forth by Dr. Noggerath in reference to the incurability of gonorrhœa, and that its long continuousness in a "creeping" or "latent" form is an exaggeration, we still must admit that the cure is often exceedingly deceptive, and relapse the rule; that often it is difficult to say whether a patient has caught a fresh blenorrhœa or is suffering a relapse from neglect of treatment, or from imprudence. I do not reject that part of Noggerath's doctrine which makes it possible that an old and chronic blenorrhœa will transmit to the female a modified "clap," not—an acute and virulent inflammation, but a slow insiduous and sub-acute attack which travels slowly and persists a long time. I believe such is probably the truth, but I do not think we need this theory to justify us in believing in the frequency of gonorrhœa as a cause of pelvic disease. Again, we must remember in pursuing this subject that blenorrhœa is quite a different matter in the female to what it is in the male, modified in a great measure by the anatomical differences in the genito-urinary apparatus of the two sexes. A few observers and venereal specialists even declare that the urethra is very rarely invaded; and Zeissl maintains that there are only five cases of urethritis is every hundred cases of blenorrhœal vaginitis. At all events, the mildness and rapidity of the urethral troubles (terminating so often in spontaneous cure), is such that often it is impossible for either patient or doctor to pronounce positively on a diagnosis independent of other complications. Again, although we are accustomed to look upon vaginitis as the typical form of gonorrhœa in the female, at the present time there are some European investigators who deny the existence of a true vaginal specific inflammation, at least in the adult.

Bumm, Steinschneider, Martineau, and others, maintain that the epithelial lining of this canal does not afford a suitable nidus for this microbe, and that accompanying vaginitis is wholly due to the irritating discharge from the uterus. Schwarz, however, opposes this view, and contends he has met with vaginitis independent of uterine infection, and even found the gonococci in the vaginal epithelium. This question, then, cannot be regarded as settled. The mucous covering of the vulva is also the seat of gonorrhœa, especially the glands of Bartholini, which often become the seat of suppuration and abscess.

The existence and frequency of blenorrhœal inflammation of the uterus is, I believe, generally admitted. Dr. Wm. Japp Sinclair, in his recent work on "Gonorrhœal Infection in Women," declares "that all the more recent observations go to prove that it is the *rule*, not the *exception*." The gravity of this form of disorder can at once be seen. The endometrium is an almost closed cavity, difficult of proper examination and treatment; the uterine discharge acts on the vagina and vulva, and keeps them in a state of inflammation; and when once the endometrium is diseased, extension to the tubes cannot but be possible, and the frequency of this extension will perhaps depend upon the state of health of these tubes previously. In a cavity like the uterus, the specific suppuration is very sure to be accompanied by the presence of other pathogenic microbes, so that the possibilities of great harm and injury resulting are to be borne in mind.

Dr. Ernest Fenger (of Vienna) states that Dr. West (of England) was the first to express the view that blenorrhœa could attack the tissue of the uterus itself, and exhibit a tendency to spread along the tubes to the peritoneum. This is valuable as the opinion of an able and close observer. As early as 1872, Dr. Noggerath made the startling announcement that gonorrhœa not only lasted a long time after an apparent cure, and was capable of infecting the female when in a latent state, but he insisted that this last form, propagated to the uterus, pursued a slow and subacute course until roused into activity by some special existing cause, such as child-birth and abortion, and then invaded the appendages. This view, only recently accepted, has been confirmed by investigations made on the basis of the gonococcus theory. In later years he has done much to develop his ideas, and arranged and classified the pelvic inflammations due to this infection. The well known researches of Bernatz and Goupil make gonorrhœa a very frequent cause of pelvic inflammations. I have not had access to the original contributions of these observers, but according to the reports of those who have, especially the statement of Dr. Hoffman, of Philadelphia, an examination 99 subjects with the usual

forms of salpingitis and its allied inflammations, revealed 28 traceable to gonorrhœal infection.

Dr. Angus McDonald of Edinburgh, with a view of testing Noggerath's position, collected and reported to the Edinburgh Medical Journal seven cases in which the mixed gonorrhœal and puerperal poison gave rise to severe pelvic disease, one among the number being fatal. These cases were very strong and convicing as to the connection with gonorrhœa. Mr. Lawson Tait, too, was among the earliest advocates of this doctrine, which he has illustrated by numerous diseased appendages removed and reported.

In 1886, Westermark, of Germany, performed laparotomy on a woman for supposed ectopic gestation, but on section a pyo-salpinx was found, with numerous gonococci in the pus; it was regarded as positively of blenorrhagic origin, and I believe it the first reported case of the discovery of this microbe in pus from this source.

In 1887, Ortman of Berlin, had a patient, 22 years of age, who had been married one year to a man known to have had several attacks of "clap." Eight weeks after her first confinement, she was taken quite ill. Urethritis was present, and severe abdominal pain. Digital examination disclosed a large left ovary, right salpingitis and oöphoritis. Extirpation of appendages on both sides was practised; purulent salpingitis and peritonitis were found on right side, and catarrhal salpingitis and peritonitis on the left. Pus from the right tube contained gonococci that could be stained in a typical manner.

Dr. Gill Wylie of New York, in mentioning the ætiological factors, attributes the majority of cases to the septic influences following parturition and abortions, but says "there is no doubt but that gonorrhœa is a frequent, and in many instances an unsuspected, cause of salpingitis."

Sanger, one of the great authorities on pelvic diseases, not only believes in the causal relation, but says that the oviduct is the main site of infectious blenorrhœa.

The German gynæcologists, including Martin and Shroeder, hold not merely the occasional occurrence of this form of salpingitis, but its great frequency. A recent account of "Gonorrhœal Infection in Women" by Dr. Japp Sinclair of Manchester, England, expresses the strongest conviction of the frequency and severity of the diseases caused by this poison. His position is that, including all forms—the acute, the subacute, and latent gonorrhœas, the mixed cases, puerperal and such like,—the largest portion of pelvic inflammations find their origin in gonorrhœal infection. A treatise on gynæcology by Dr. S. Pozzi of Paris, a comprehensive work representing the teachings of English and German authorities as well as French, gives in the chapter on "Oöphoro-Salpingitis," the list of ætiological factors as follows: 1st. Blenorrhagic infection: 2nd. Puerperal infection: 3rd. Mixed infection: 4th. Exploration by sounds and surgical intervention: And he entirely confirms the observations of M. Bernatz.

In his clinical lectures on pelvic and abdominal surgery, Prof. Terrillon, after saying that the causes of salpingitis are various, declares blenorrhagia is to be placed in the first rank; next follows accouchments and abortions.

I have alluded to the discussion in the Phila. Med. Society in 1889, in which Dr. Jos. Price insisted on the prevalence of this form of trouble, a conviction acquired by close observation of the clinical histories he had met. In a recent letter to the writer, he expresses himself thus:

1st. That the most common cause of salpingitis is gonorrhœa, and: 2nd, more than 75 per cent. of my cases are positively traceable to gonorrhœa.

Prof. W. M. Polk, of New York, kindly answers some queries I propounded in the following language:

Having followed a gonorrhœa from the vagina to the peritoneal cavity by way of the tubes, I must believe in the causative action of the disorder. A case while under my close observation developed endometritis, salpingitis and peritonitis. I operated in the acute stage, and found the tubes filled with pus. The evidence of acute local peritonitis was equally apparent.

In regard to its frequency as compared with other causes, Dr. Polk stated that his record book showed puerperal causes in the majority.

Dr. Palmer Dudley of New York, was kind enough to reply to my queries:

I frequently see cases of salpingitis and pelvic peritonitis as a result of gonorrhœa, and have many times treated the patient from the inception of the gonorrhœa, until she has convalesced from the peritonitis. I regard it as second among the causes producing peri-uterine disease. I regard puerperal conditions, etc., as first in the production of salpingitis and ovaritis.

Dr. Henry T. Byford also says:

I consider gonorrhœa a very frequent cause of salpingitis, and I consider the remains of old gonorrhœa an occasional cause of puerperal sepsis.

I am happy also to have the testimony of Dr. Geo. J. Engelmann:

Acute gonorrhœa is not infrequently a cause of perimetritic lesions; it does spread to the peritoneum through the tubes; while the chronic forms of gonorrhœa are responsible for those low and obscure cases of perimetritis which render a woman's life a burden.

The position on this subject of Dr. Howard A. Kelly of the John Hopkins Hospital, will be valued. In the last Hospital Reports, he says, in remarking on a case of pyo-salpinx removed by him and examined with great care:

The character of the pus and the nature of the inflammatory process throughout, leave room for little doubt as to the existing cause being a micro-organism, and the facts that repeated attempts with cultivation on nutrient agar and gelatin have yielded negative results, also lend greater probability to the supposition that the sensitive gonococcus is the organism in question. Also, after patient research by Dr. Ghrisky, my assistant, the characteristic diplococci were found within the pus cells and grouped in colonies. A very recent letter from Martin of Berlin, says: "I have demonstrated the gonococcus in three cases."

Dr. Kelly also adds in reply to some inquiries, premising, however, that these were only his opinions and not accurate data for scientific purposes:

I believe gonorrhœa is a frequent cause of salpingitis; if I were to guess, I should say in fifteen or twenty per cent. of the cases, some suppurative, many of them, however, terminate in a hydro salpinx. I also quote the following, as it may be of assistance to other observers, namely: "That the pus produced by the gonococcus is of all forms one of the least noxious to the peritoneum, standing at the opposite pole to the streptococcus.

In my own clinical experience I am not able to give cases in which the chain of sequences are so perfectly known as to be of scientific value, nor with diagnosis confirmed by section, yet I have met a great many in which the signs and symptoms of pelvic inflammation were so associated or consequent upon urethral or vulvar troubles, and in which circumstances pointed so strongly to the existence of infection, that I believed them to be cases of gonorrhœal infection. I have in no instance confirmed my diagnosis by a laparotomy, but I give a synopsis of two cases:

Case I.—Mrs ——, a young married woman in excellent general health, with child 18 months old at the time of my first visit in October last. She had never been pregnant except with this child, and had had no trouble in childbed, and up to a week before my visit seemed to have had no local trouble—menstruated easily and regularly for the past twelve months, although she only stopped nursing three months before. Her husband was a commercial tourist and away from home two months at a time. When I arrived at the bedside, the lady told me that she had been suffering greatly for some days when passing water—very frequent calls,—and scalding; that she had tried several times to use a vaginal injection, but could not introduce the nozzle; that she had a free discharge of whites, and was tender and sore in her lower bowels, and exceedingly uncomfortable. On examining the patient on her side, the effort to introduce the fingers produced so much pain that I had to desist. I then inspected the vulva; the mucous lining was red and irritated, with some abrasions. As far as I could see, the vaginal mucous membrane was very much swollen, and the orifice contracted as in a case of vaginismus. The discharge was very thick and creamy. I proceeded no further in the examination. By the use of warm Sitz baths, mild disinfecting lotions and douches, with the solution of creolin, I succeeded after three or four days in reducing the vaginitis so as to be able to make a speculum examination. The urethral trouble also yielded rapidly to diuretics and copaiba. The endometritis that I found proved to be very severe, lasting three months under appropriate treatment, until the 27th of January. I was called again early in June, and found she had been in bad health for two months; had lost flesh; could not walk; uterine leucorrhœa was excessive, and all the signs of tubal and ovarian inflammation. Treatment was interrupted by departure from home, and on my return she told me she had never recovered her health.

Case II.—During November and December of 1889, I was treating a young man for "clap." He was somewhat irregular in attendance and progressed very slowly. What was my surprise, one morning in January, to see in the daily press the announcement of his marriage. I heard nothing more of him until some three or four weeks after, when he came in great haste for me to see his wife. They had returned a few days before from a bridal trip. I found her very ill with symptoms of severe general peritonitis; abdomen very large and tympanitic, nausea, high fever and bad pulse. She had suffered urinary symptoms for some days. I could make no examination as she was too ill. To my surprise she was very much better by the fourth day, and in a few more days all the acute symptoms subsided. A profuse leucorrhœa continued. I dismissed her, but in two weeks was called again. She did not have this time the high fever and signs of general peritonitis, but had passed through a chill, and complained of much pain in the uterus. She was five or six weeks in getting out of doors. Since then her periods have been very painful and profuse, requiring her to go to bed four or five days.

These cases afford good specimens of what is not uncommon in my experience, and in my judgment cannot be explained on any other theory than that of infection. It is probable that these women will become invalids and finally seek relief at the hands of a laparotomist.

The evidence to be derived from the bacteriological side of the question cannot be considered as more than corroborative of clinical observations. The examination with the microscope of the purulent contents of the tubes has, so far, generally given negative results; results that are thought by some to be due to the delicate character of this micro-organism, so that although it may be present in recent pyo-salpinx, in the more advanced cases it has become broken up and lost in debris. There are perhaps ten or twelve cases in which the discovery has been well established. Only once in America, by H. A. Kelly. Not at all in England. Once by Westmark, once by Ortman, three times by Ed. Martin, and recently, by Wertheim, of Germany, who reports five cases, as quoted in the October number of the American Journal of Medical Sciences. He

has demonstrated the presence of gonococci not only in the pus, but in the epithelial lining of the tube.

Sanger, as quoted by Sinclair, says that:

The hope of finding in the gonococcus of Neisser the means of diagnosing gonorrhœa in the female internal organs, has proved to be vain. This, however, it seems to me is a too hasty conclusion to arrive at, inasmuch as the study of the disease in this aspect is too recent and incomplete. For if the micro-organism itself is not the direct cause, we may find that the ferment generated by its activity is the efficient poison; or the opinion of the German writer, Gebheim, may prove to be correct, and this too without invalidating the clinical evidence, that the blenorrhagic complications of the internal female organs are always due to a mixed infection, in which the gonococcus only opens the door to other microbes.

The conclusions I would summarize are as follows:

We can see no antecedent improbability that an active specific virus, such as the gonorrhœal, is not liable to invade the Fallopian tubes, but on the contrary analogy would lead us to expect it.

That after making all proper allowances for loose histories, inaccurate diagnosis, and ardent enthusiasm of laparotomists, we still have sufficient clinical data to establish a causal relation between gonorrhœal infection and pelvic inflammations, the frequency of which, taking all classes of society together, is much greater than the opponents of this doctrine admit.

That it is very probable, if not proved, that many cases are traceable to a modification of acute gonorrhœa, so-called chronic, creeping or latent, which in the first instance will create a mild insidious endometritis running a chronic course, and eventuate in inflammation of the tubes, ovaries, and peritoneum.

There is good ground for thinking that a mixed infection may be at times responsible for the invasion of the appendages, either in the shape of a toxic principle generated from the gonococci, or in the sense of the specific suppuration offering a suitable nidus for other and different bacteria.

That the weight of bacteriological research is in favor of the clinical experience of those who hold to gonorrhœal infection, and the proof from this quarter is daily increasing.

NASHVILLE, TENN.

"Tally One" for the Homœopaths.—The Camden, N. J., Homœpathic Hospital, which has been open for five years, has closed its doors, and its property is for sale. The reason assigned by the managers is, the difficulty of securing medical attendance at the hospital without compensation of the medical men.

Correspondence.

PARIS LETTER.

PARIS, December 15th, 1890.

A Remarkable Example of Hereditary Transmission. — The following remarkable family history comes from one of the Provinces:

The father of the family, a worthy farmer, upright and honest, was eccentric. He had eight children, one of whom (a daughter) became insane. His third child had three children, one of whom committed suicide. A grand-daughter by his sixth child was a lunatic; another grandson was idiotic. The fourth son married the sister of two lunatics, though she herself seemed all right.

The results of this last union were particularly strange. There were two children, a son and a daughter; the latter married a first cousin, bearing him seven children, considered the brightest in the village. The son had a daughter, who married her second cousin (whose brother was an idiot), and from this union came six children, one of whom was very eccentric, and three others deaf mutes.

Out of the whole family of 43 persons, 17 were more or less affected in various degrees, varying from simple eccentricity to fully developed insanity. It should be said that idiopathic deaf-mutism is quite as much a sign of cerebral degeneration as any of the other symptoms.

The following interesting operation for removal of the spleen was performed by Dr. Credé of Dresden: The patient, a mason, 43 years old, ten years before had received a blow with a stone in the neighborhood of the spleen. For a few days subsequent to the injury, he suffered a trifle of pain in the spot, but nothing more. One year since, however, he noticed a slowly growing tumor on the left side of the lower abdomen, which inconvenienced him in his work.

For the removal of this tumor, which was the enlarged and degenerated spleen, an incision was made along the free border of the left rectus abdominis muscle, when a large quantity of clear yellow fluid containing cholesterine escaped. The organ was then freed from its connections and removed, while the pedicle was carefully ligated and returned. Healing followed by first intention. In spite of the very slight loss of blood, and excellent appetite, recovery was very slow, and the patient gave the impression of being highly anæmic. After four weeks, examination of the blood showed considerable increase in the white blood-corpuscles, and corresponding decrease in the red; beside, there appeared in the blood numerous red bodies. At the same time appeared a painful inflammatory swelling of the thyroid gland.

Five months after the operation, the circulation and the thyroid returned to their normal condition, and the strength was so entirely restored that the patient was able to resume his trade as mason.

The history of this case offers additional confirmation of the the theory that the spleen has much to do with the formation of the blood, especially in the change of the white to the red corpuscles. The spleen once removed, its functions are taken by the thyroid gland and the marrow of the bones, but there is no reason for believing the lymphatic glands participate in this action.

A peculiar case of goitre.—Dr. Credé also operated on a boy 16 years old for goitre of about four years standing. There was very little enlargement, the neck simply appearing a trifle swollen, yet there was great dyspnœa and occasional attacks of suffocation, which the size of the tumor did not by any means account for.

For six months before the operation, there had been complete paralysis of the right vocal cord.

Treatment by iodides, internally and externally had been faithfully tried, but without result.

An incision was made in the median line, but on attempting to release it on its left side, it was found it rested upon the vertebræ and completely enfolded both larynx and œsophagus; the right side was found to extend even farther back than the left. The whole mass was finally removed without much difficulty, as it was hard and held well together.

When the growth was removed its upper part formed a complete cast of the larynx. The trachea had been strongly compressed by it from all sides, and thereby much reduced in calibre. The blood vessels were taken up by means of forceps, *as close as possible to the gland*, in order to avoid cutting branches to other important tissues, but were not tied save when it seemed specially necessary. The patient lost the power of swallowing as a result of the operation, and for fourteen days was obliged to be fed through a stomach tube. From this time on, however, he could take food in the natural manner.

The paralysis of the right vocal cord remained, but the voice was much improved, owing to the fact, that the well cord took upon itself, to a great extent, the functions of both. This case is interesting from the fact, that in spite of the patient's youth and the total extirpation of the gland, no disturbance of the intelligence or cachectic condition was observed.

Although Dr. Credé does not deny that these conditions may result from total extirpation of the thyroid gland, he declares he has never observed this result in any of his operations.

This operation was performed under careful antiseptic precautions; the wound was left open, a drainage tube inserted on each side of the larynx, the whole being dressed with salicylated cotton. The healing process was unaccompanied by complications. Tracheotomy was not performed.

W. F. Robinson, M. D.

EXTENSIVE ABDOMINAL INJURY.

Editor Medical Age:

The following case may be of note on account of the great extent of the injuries sustained.

George S., æt. 22, while coupling cars, was caught between two bumpers and seriously crushed. There were five openings into the peritoneal cavity, with extensive lacerations of the greater omentum. The largest of the wounds was six inches long, located in the iliac region, extending from about two inches above and to to the inside of the superior spinous process of the ilium, in both directions, upwards and outwards, and upwards and inwards towards the linea alba, thus forming an obtuse angle, with apex above and inside of the spinous process, its base outlined by a line drawn from one iliac crest to the other. There were two openings, about two inches in length, parallel to, and just below the free border of the ribs; also two other, one about one inch and the other a half inch, between the ninth and tenth ribs.

From the largest of the openings a portion of the external and internal oblique muscles, equal in extent to about two inches square, was torn and left on the car; and a large portion of the colon, and some small intestines protruded, which he had partially covered with a very dirty shirt. The intestines were exposed about two hours. On the outer and under side of the descending colon was an abrasion, from which the blood oozed, about an inch wide and six inches long. The cartilages within the three lower ribs were torn, which I discovered while making the abdominal toilet. Also the apex of the twelfth short rib was bent in. I pressed it back with my hand under the bowels in the abdominal cavity.

I tied bleeding arteries, amputated lacerated portions of the greater omentum, and returned the protruding bowels to the abdominal cavity, first washed with bichloride solution, 1:1000. Then I put back the bowels, the lacerated portions of the omentum were brought out to fill the place where the muscles were torn away. I brought the muscles together with silk ligatures, and the integument, by stretching a little, I made to cover all. After first inserting a rubber tube in the left side and running down under the bowels and bladder, I applied iodoform freely, and put on a dressing of iodoform gauze and antiseptic cotton. The next evening I found my patient with a temperature of 100° F., which remained constant for about a week and then lowered to normal. There was some cystitis, necessitating the use of the catheter for three days. I prevented the bowels moving for one week by opiates, and gave no nourishment but beef-tea.

At the end of two weeks there was no suppuration, and the wounds had begun nicely to heal, but having to open the dressing to examine the tube, some suppuration occurred from the surface; the wounds had already closed at the bottom. Now, at the end of six weeks, he is out of bed, and recovery practically complete.

J. FRANKLIN MYERS, M. D.

SODUS, N. Y.

CHRONIC GLEET.

EDITOR MEDICAL AGE:

C. D., male, white, æt. 19, came to me in August last with a pronounced case of chronic gleet. He contracted gonorrhœa more than 12 months before in New York City, and had been under continuous treatment since. The young man frankly admitted indiscretion in July prior to date of inception. This of course aggravated the disease which, when I first saw him, had assumed a stubborn form with "bridle stricture."

There was general atonic debility with loss of flesh and spirits, and a determined resistance to the benefits, that at least to some extent, usually follow specific treatment. Upon first passing the catheter a urethral chill was imminent, requiring special care in subsequent dilatation. Examination of the urine revealed no organic kidney trouble.

As the patient failed to respond to tonic treatment as thus far employed, I decided to place him upon syrup trifolium comp., and hæmatic hypophosphites. The good results obtained were apparent in the marked improvement that followed, and I was soon enabled to discharge the patient cured, having regained both health and spirits.

Very truly yours,

E. DOUGLAS WEBB, M. D.

1619 SIXTEENTH ST., WASHINGTON, D. C.

ANENT THE AMERICAN MEDICAL ASSOCIATION.

EDITOR MEDICAL AGE:

"Inquirer," in your journal, having made bold to prod His Flatulency of the Journal, I venture to ask what is the status of the Journal with reference to the membership fee? Is it a species of gift chromo to encourage us to pay promptly so large a sum annually? And without the chromo what should it cost us to keep in standing with the Association? Would it not be better to separate the two, to reduce the annual dues as far as compatible with the requirements of the Association, and leave the members at liberty to purchase their medical literature in open market?

No wonder our collaborator nods betimes. He fills the hopper with the papers of a session, and lets them grind out slowly during the year.

OLD MEMBER.

The Medical Age.

A SEMI-MONTHLY REVIEW OF MEDICINE.

B. W. PALMER, A. M., M. D., Editor.

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Editorial.

SURGEON-GENERAL BAXTER.

Surgeon-General Jedediah Hyde Baxter who was stricken with paralysis Dec. 1st, died three days later without having regained consciousness.

Born in Stafford, Vermont, May 11th, 1837, he was educated in his native State, receiving his medical degree in 1860. In 1861 he became surgeon of the 12th Mass. Vols. and 1862 obtained rank in the regular service, being brevetted Colonel in 1865. In 1867 was appointed Assistant Medical Purveyor, an office created expressly for him.

In August last he succeeded Surgeon-General Moore on the retirement of the latter. His friends had frequently urged his appointment to the office whenever a vacancy occurred, and when Surgeon-General Barnes died in 1881 he was promised the post, but lost it through the assassination of President Garfield.

Member of the Public Health Association, American Medical Association, Boston Gynæcological Society, and the Philadelphia Academy of Sciences, he was also a contributor to medical and scientific periodicals generally, and the author of "Medical Statistics of the Provost Marshal General's Bureau."

In 1876 he married Florence Tryon, daughter of the late William Tryon, of Washington, who survives him.

The funeral took place December 6th, the interment with all the "honors of war" being at Arlington Cemetry. Five battalions of infantry, a platoon of cavalry, and two batteries of artillery acted as escort.

PROGRESS IN THERAPEUTICS.

As the year passes away, the time is a fitting one to review the work that has been achieved in the direction of increased knowledge of the means of curing disease.

Some allusion to the therapeutic history of the past may not be inappropriate to the mention of recent discoveries in therapeu-

tics. This history we gather from a recent review in the British Medical Journal.

"During this century the science and art of medicine have seen as many changes and advances as perhaps any other department of practical knowledge; since, indeed, medicine has taken what she needed of the rapidly developing sciences of physics, chemistry, and biology. The mode of progress of one branch of medicine—therapeutics, the aim and end of medical science—was the subject of an interesting address given by Professor Oscar Liebreich in 1887. Virchow has affirmed that all the lasting progress in medicine has been made by anatomical discoveries, and many examples are familiar to all of the truth of this, such as the discovery of the capillaries by Malpighi, and of the cell by Schwann. But such a statement is not the whole truth; as Liebreich shows in his address, many physiological discoveries have been epoch-marking, especially in their bearing on the art of therapeutics.

"Ancient therapeutics were pure empiricism; and there are not a few who still hold that this is the chief element in the modern art. This may be so, but the development of physiology, and of its daughter science pharmacology, has led to the hope that empiricism will give way to rational treatment, art to science. The vicissitudes through which drugs have gone are in many instances not only interesting, but instructive. Pliny, for example, recommended the use of mint, since it healed a diseased spleen when it was eaten from the growing plant nine days in succession. But he also states that it increases the appetite, and, when inhaled, improves the condition of the diseased nasal cavities, and when applied to the forehead relieves headache. It was eighteen centuries later when menthol was brought from China and utilized in the treatment of migraine, for some forms of which it is an efficacious remedy.

"The soporific and lethal properties of opium were also known to Pliny; but the drug, from causes imperfectly known, became degraded. It was for a time an ingredient in *Theriacum*, a favorite remedy for all diseases in ancient days. The use of opium seems, however, to have been forgotten until Paracelsus introduced laudanum, and since his time it has been regularly employed in medicine. Many other instances (coca, cinchona, etc.) might be cited of the accidental introduction into medicine of drugs, which have become, as investigation of their properties progressed, of great importance in the treatment of disease. What modern science has done, however, is to take these drugs and investigate them so as to render their employment more judicious. This is still one of the aims of pharmacology. Here it is that physiology comes in, and the words of Mitscherlich (1847) on the subject are well worth quoting:

"'The changes in the function of the organ are the most important aids to the explanation of the action of a drug. In a large number of good observations there are many certain results obtained, and, on the other hand, many imperfect and false conclusions,as to the action of drugs; so that for the correct understanding of the effect of a drug not only must its action be observed on the function of the brain, spinal cord, the senses, muscles, digestion, circulation, respiration, micturition, secretion, and excretion, but also on the body as a whole.'

"This is naturally a point of view from which the ancients (or, indeed, the exponents of medicine till quite modern times) could not regard drugs; they had not the guiding light of physiology. An excellent example, illustrative of this, is found in digitalis. Fuchsius, of Tübingen, appears to be the first medical writer who recommended the drug (1542), but great uncertainty as to its utility prevailed, so that, although it was included in the London Pharmacopœia published at the commencement of the eighteenth century, it was omitted from the 1746 edition, and was not reinstated until forty-four years after. This was after Withering had published an article (1775) on the efficacy of digitalis in the treatment of dropsy. Withering appears also to have had a clear idea as to the direct action of the drug on the heart. Our modern knowledge of the action of digitalis dates from Ed. Weber's researches on the influence of the vagus on the heart, and the subsequent researches of L. Traube working with digitalis. We have from these and more recent observations a clearer notion, not only of the exact mode of action of the drug, but of its dosage and its dangers; and as a corollary we have the introduction of strophanthus and other cardiac remedies, the use of which in practical medicine is the outcome of pharmacological research.

"Physiology has, therefore, been of service to therapeutics, but chemistry has advanced practical medicine to a great, if not greater, extent. Paracelsus may be looked upon as the "reformer" who first brought chemistry into touch with therapeutics. Chemistry was then alchemy, and was crystallizing, although very slowly, from the impure mother liquid. Paracelsus looked to alchemy to discover what of virtue and power there resided in remedies ('was Tugent und Krefft in der Arzney sey'). Modern chemistry has done this, and in two chief ways. The methods of chemical analysis have been the means of separating and purifying the active ingredients of a drug, and these purified products may be applied as efficiently as, and with greater precision than, the uncertain solutions, extracts, etc., of the crude drug.

Not only have the rapidly improved methods of chemical analysis greatly influenced the art of therapeutics, but a stimulus has been given to the study of the subject by the advances made in theoretical chemistry. A little consideration will demonstrate this. One of the greatest advances of modern chemistry was the discovery of the laws regulating the combination of elements, of radicals, and the construction of the constitutional formulæ of the organic compounds. These discoveries were the result of the work of many observers, from the epoch-making researches of Lavoisier to those of Williamson and Gerhardt in our own generation. It may not at first be quite apparent what connection these result have with therapeutics, what relation the mode of combination of the elements and radicals in an organic compound has with the treatment of disease. But this relation is quite apparent when we consider that by changing the radicals of a compound—that is, by substituting other radicals for those already present—we alter the physiological and therapeutical effect of a substance. The well-known results of the researches of Crum Brown and Fraser may be quoted—one example among many—namely, that the tetanizing action of strychnine is changed to a paralyzing one, if a methyl-group be added to the molecule of strychnine. This fact, that of the modification of the physiological action by the alteration of the chemical constitution of a substance, constitutes a modern and exceedingly important advance in the science of the treatment of disease. In pharmacology the study of the action of chemical substances (drugs) on the life processes of the cell must play a large part. 'The cell,' as Virchow clearly says, 'is the primary form-element of all living manifestions, whether in health or disease; it is that from which all living activity proceeds.' The pharmacology of the cell is, however, still a study in embryo; but the researches of Ehrlich and others promise fruitful results.

"A review of the history of the development of therapeutics would not be complete without some reference to the results obtained from the study of antiseptic remedies. The application of these to the treatment of wounds need only be mentioned; but there is another one of these which is of great importance in therapeutics, namely, the administration of remedies as internal antiseptics. The conditions are not quite the same as when they are applied externally, for when administered as medicines they enter the stomach, where they may be altered in their constitution, and, after entering the circulation, they may form combinations which render them inefficient as antiseptics, or they may be rapidly broken up by the living tissues, and thus rendered impotent. A simple example may be taken of this difference of action of drugs outside and inside the body. Trichinæ outside the body may be readily killed by a solution of picric acid, and yet in cases of trichiniasis the tissues may be made quite yellow with the drug without the disease being affected. Mercuric chloride, the most powerful germicide we possess, is quite powerless against pathogenous organisms such as the anthrax bacilli when growing in the body. This may be partly on account of the small quantity of the drug that it is possible to administer, but it is partly due, in all probability, to the combination of the drug with the constituents of the body, for example, the proteids. On the other hand, substances which outside the body have only a subordinate influence on micro-organisms are of service in certain acute infectious diseases—quinine and iodoform, for example. We look in the future for pharmacology to tell us what these apparent anomalies really mean. The study must be built on a foundation of the physiological action of remedies, and must go hand in hand with a knowledge of pathological changes, structural, chemical, and functional.

"There has certainly been a marked period of *renaissance* in therapeutics during the last quarter of a century. As for the past year, we have had new analgesics and new applications discovered for old ones.

"Chemistry, Pharmacy, Botany, and Medicine, have all contributed their quota to the increased knowledge of new drugs and their therapeutic uses.

"No year would be complete without a new discovery for the cure of tuberculosis, and this year has been signalized by the advent of Koch's revelations as to a practicable method of relieving some forms of this dread disease.

"It would not seem unreasonable to the therapeutic optimist to assume that Nature wil yet yield further secrets to the ardor of scientific research, and that medicine may offer a palliative, if not a cure, for every known disease."

EDUCATION IN ITS RELATION TO THE DEVELOPMENT OF THE MENTAL FACULTIES.

In this enlightened age, not the least important feature of the physician's work is the prevention of disease. This function of the physician should not be confined merely to the observance of sanitary laws, but should extend as well to the proper supervision of educational methods. No Board of Education or of Sanitation should be without its medical advisor.

In a recent paper contributed by Thomas Nelson, M.D., to the Birmingham Medical Review, he very pertinently remarks:

"I look forward to the time when the education of a doctor will be held as pre-eminently qualifying for the post of an educator of the

people, and even now I feel that a step in the right direction would be the creation of appointments in public schools for the compulsory teaching of physiology, psychology, and hygiene, in their elements, by physicians specially selected for the purpose. That each School Board should have a doctor as a member, would also, to my mind, benefit the public.

"What is the object, then, of education, and how best are we to attain it? The object to be attained is, to teach the individual how to live, not in the material sense only, but in the widest sense. Stated as a general problem, we have to teach the right ruling of conduct in all directions and under all circumstances. To attain this object, no one will for a moment leave out of consideration the importance, the necessity, for paying attention to physical as well as mental development. Before we can have a good intellectual organism we must have a good animal. With a view to the formulation of a general system, Herbert Spencer has classified in their relative importance the leading kinds of activity which constitute human life. First in importance, he says, are those activities which directly minister to self-preservation. Second, those activities which, by securing the necessaries of life, indirectly minister to self-preservation. Third, those activities which have for their end the rearing and disciplining of offspring. Fourth, those activities which are involved in the maintenance of proper social and political relations. Fifth, those miscellaneous activities which fill up the leisure part of life—devoted to the gratification of the taste and feeling.

"Bacon has said: 'The education of the senses neglected, all after education partakes of a haziness, an insufficiency which it is impossible to cure.' Pleasure in learning is also of the utmost importance. Whatever is done without pleasure partakes of a task, and for lack of attention is imperfectly fixed on the mind, thus giving rise at the beginning to the gravest of all errors, imperfect perception. Without dwelling at all upon the particulars of early acquisitions — kindergarten, object lessons, etc.—and without considering, as might well be done did time permit, the question of language teaching, we all of us must own that correct preception is the first thing to be attained; and for its attainment science must ever and anon hold the first and highest place. Facts, in whatever guise and however simple, must be understood. This can alone be attained by science. By confining the undeveloped mind to this educational method, and by abstaining from stimulating too much imaginative conceptions, as is done by fairy tales and superstitious fables, we leave the mind at least in the way to develop in a proper direction.

"The seven laws of mental evolution as laid down by Mr. Herbert Spencer may be briefly stated, 1. We should proceed from the simple to the complex. 2. We must remember that the development of the mind, as all other developments, is an advance from the indefinite to the definite. 3. Our lessons ought to start from the concrete and end in the abstract. 4. The education of the child must accord both in mode and arrangement with the education of mankind considered historically; the genesis of knowledge in the individual must follow the same course as the genesis of knowledge in the race. To explain this more fully we need only turn to national types, and remark how the contrast between them persists from age to age. If there be an order in which the human race has mastered its various kinds of knowledge, there will arise in every child an aptitude to acquire these kinds of knowledge in the same order. 5. We should proceed from the empirical to the rational. 6. Self-development should be encouraged to the uttermost. 7. The best test of a system of education is the pleasure it affords to the pupil.

"What the State wants are healthy men and women, physically and mentally."

IMMUNITY FROM DIPHTHERIA AND TETANUS.

Under this title a new and very noteworthy publication has been made by the Hygienic Institute of Berlin, by Dr. Behring and Dr. Kitasato, in No. 49, of the Deutsche Med. Wochenschr., giving promise of the possible cure of diphtheria and tetanus by means of the transfusion of blood. The authors begin their study with the statement that in both infectious diseases (diphtheria and tetanus), they have succeeded in curing animals already infected, as well as in so treating healthy animals that the latter were not attacked by diphtheria or tetanus. The mode of treatment is to be inferred from the following statements which have been confirmed by experiment.

1. The blood of the rabbit, possessing immunity from tetanus, possesses the power of destroying the tetanus poison.

2. These properties are also observable in the extra-vascular blood and in the serum, free from cells, obtained therefrom.

3. These properties are of such a permanent character that they retain their virtue even in the organisms of other animals, so that it is possible to achieve striking therapeutic effects through the transfusion of blood or serum.

4. The power destructive of the tetanus poison, is absent from the blood of such animals as do not enjoy an immunity from tetanus, and when the tetanus poison is introduced into animals, not possessing immunity, it is to be found in the blood and other fluids of the body, even after death.

Notes and News.

Biography of Robert Koch.—Dr. Koch, born forty-seven years ago at Clausthal, in the Hartz Mountains, was educated and graduated at the University of Gottingen. Shortly after taking his degree he established himself in a village near Hanover and began to practise as a physician. Finding, however, that it was impossible to make both ends meet, he emigrated to Rackwitz, a little malarious town in Prussian Poland, which he subsequently deserted for Wollstein. It was while there that his name came before the public in 1880 as an expert in connection with the famous Speichert poisoning case. The conviction of the prisoner in this *cause célèbre* was entirely owing to the remarkable analyses and medical testimony of Dr. Koch, which attracted widespread attention by reason of their profound erudition. Later he made some remarkably accurate studies in septicæmia. In 1882 he first made the great discovery that tuberculous diseases were due to the existence of bacilli. In 1883 his labors were interrupted by his being placed at the head of the medical commission dispatched by the German Government to Egypt and India for the purpose of making researches into the origin and the causes and prevention of cholera. It was while at Calcutta that he succeeded in discovering the like germ of cholera. On his return to Germany he was rewarded by the Government for his researches with an honorarium of 100,000 marks, with the rank of Privy Councillor, and with the Rectorship of the Imperial Institute of Hygiene.—*Med. Record.*

Spermatozoa in the Urine of Women.—A pharmacist in Bordeaux having been requested to analyze a woman's urine, found on microscopical examination it contained quite a number of spermatozoa. Feeling doubtful as to whether he should mention the fact in his report, he asked Professor P. Carles opinion on the subject. The latter replied that, not long since, he found himself in just the same predicament. A gentleman of some standing in society, who was in the habit of having his urine occasionaliy examined, one day sent a specimen of his wife's water, with a request that it be analyzed. The microscope having shown the presence of spermatozoa in an otherwise normal urine, Mr. Carles asked himself whether the husband, aware of the microscope's power, was not trying to verify some dark suspicions. Although such hardly seemed to be the case, the Professor concluded to keep silent regarding his discovery. And since then, whenever female's urine is presented, either described as such or identified from special histological constituents, he has made it a rule to omit in his report all mention of any spermatozoa that may have been found. Their presence is only noted confidentially, when the report is to be handed personally to the physician. Of course, in a legal case the same course would have to be followed. The writer of the letter adds, that it may be of some interest here to remark, that some years since a like instance occurred in Brooklyn, N. Y. Two well-known physicians attending the young unmarried daughter of one of the "first families," were one day taken aback by the discovery of swarms of the tell-tale microzoa where they had no business to be. After consultation, spermatozoa not being a morbid symptom in female urine, they wisely came to the same conclusion as the French professor, and kept their find to themselves.—*Medical and Surgical Reporter.*

Fashions in Physic.—

A fashion in physic, is like fashion in frills:
The doctors at one time were mad upon pills;
But Crystalline principles now have their day,
Where Alkaloids once h·ld an absolute sway.
The drugs of old times might be good, but it's true,
We discard them in favor of those that are new.

The Salts and the Senna have vanished, we fear,
As the poet has said, like the snows of last year;
And where is the mixture in boyhood we quaff'd,
That was known by the ominous name of Black Draught?
While Gregory's Powder has gone, we are told,
To the limbo of drugs that are worn out and old.

New fads and new fancies are reigning supreme,
And Calomel one day will be but a dream;
While folks have asserted a chemist might toil
Through his shelves, and find out he has no Castor-oil;
While as to Infusions, they've long taken wings,
And they'd think you quite mad for prescribing such things.

The fashion to-day is, a Tincture so strong
That, if dosing yourself, you are sure to go wrong.
What men learnt in the past they say brings them no pelf.
And the well-tried old remedies rest on the shelf.
But the patient may haply exclaim, "Don't be rash,
Lest your new-fangled physic should settle my hash!"

—*Punch.*

A Sign of Anæsthesia in Man.—According to Prof. Guelliot, the absence of reflex action in the cremaster muscle is a sure sign that chloroform has taken effect. The reflex is comprised in a zone of the form of a triangle situated in the upper and external region of the thigh. The base corresponds to the crural fold, the inner side to the great abductor, and the outer to the sartorius muscle. By tickling or pinching the skin in this part, the cremaster contracts and draws up the testicle. Several times M. Guelliot made the experiment, so that although the pupil reflex may have disappeared, when he notices that the cremaster is still excitable he refuses to commence an operation, for in order that the anæsthesia be complete the testicle must remain at the bottom of the scrotum.

Tolstoi a Pessimist.—This miserable pessimist, great man and great mind though he be, finds no good in aught human; its institutions, its governments, its churches, its priests, its professions, its passions and opinions, all are bad; marriage is not only a failure but a sin—a "legalization of sensuality." His theories are not new; many years ago I listened with open-eyed wonder while a Shaker Elder declared that all love was passion, and celibacy the only sinless state. He was gentler, and less fanatic and intolerant than the author of the Kreutzer Sonata, and I felt there was some truth in his reasoning.

I have ever doubted if a bit of paper with a seal, and a few words mumbled by an ignorant magistrate, made sexual intercourse between an unloving and ill-mated man and woman, less adultery than was the embrace of two young lovers whose prudence in an unguarded moment yields to passion; whether the woman who weds a man for his wealth or position is less an unchaste woman than she who receives her lover without consent of Church or State for love of him. I know the world regards them differently; "honored well are charms to sell, if priests the selling do," but—I doubt. Still, as it now stands, marriage is the best solution ever yet offered to that great problem, and the man who would endeavor to solve the problem without marriage forgets that it is a human and not an ideal and angelic race he deals with.—Dr. A. B. Holder, in *Memphis Medical Monthly.*

Koch's "Lymph."—According to recent dispatches from Berlin, the German Government takes charge of the manufacture of the "lymph" and has requested Koch not to publish the method of preparation, so as to render its imitation impossible. Koch says that if improperly made, serious results might be caused by its injection. There are now 750 patients under treatment. Five have died after the injection of the "lymph," one a soldier who was being treated for lupus. The rumor that exorbitant prices were being charged by the few who have access to the "lymph," is denied, but there is no doubt that the supply is limited, and that for the present, at least, it is absolutely useless to send patients to Berlin. There are already over two thousand doctors in the city, and more on the way, many of them from America; but unless possessing exceptional influence, none will have any better advantages for investigation than if they stayed at home.—*Boston Med. and Surg. Journal.*

Vastness of Medical Periodical Literature.—Some idea may be formed from the fact that on September 2d the trustees of the Newberry Library at Chicago ordered 285 journals, dealing solely with the healing art in its various branches, to be regularly supplied to the Institution. Of these, 95 are published in the United States, 59 in Germany, 47 in France, 20 in Great Britain, 15 in Austria, 13 in Italy, 7 in Belgium, 5 in Canada, 4 in Spain, 3 in Norway, 3 in Sweden, 3 in Denmark, 2 in Switzerland, 2 in Australia, 1 in India, 1 in Mexico, 1 in New Zealand, 1 in China, 1 in Japan, and 1 in Africa.—*Weekly Med. Review.*

Prospected Removal of the Journal of the Am. Med. Assn. to Washington.—At the recent meeting of the Board of Trustees in Washington, to consider this subject, many were in favor of immediate removal, while others deemed it a matter of such moment as to require careful consideration, and that the views of the entire Association should be had.

The responsibility for such action, therefore, will devolve upon the membership of the Association as a whole at the next annual meeting.

In the Treatment of Colle's Fracture, I lay great stress on not confining the fingers in a bandage. The fingers should be left free so that the tendons can play in their sheaths and the little joints remain flexible. If the joint of any aged person be confined for a certain length of time—even though it be not injured—the joint thus confined will become stiff. The fold of the capsular ligament will have assumed such a strained position that as soon as the patient makes an attempt to move his joint, the very act will elicit pain.—*Gerster.*

Heavy Bedclothes Objectionable.—A good many people spoil the effect of a good night's rest by the ridiculously heavy bedclothes they use. Old-fashioned cotton quilts, or modern Marsala ones, are very heavy and of no use, as a thin covering to protect blankets from the dirt is all that is really necessary. Bedclothes should be like body clothing, light and warm. Many a bad sleeper would do well to see whether his coverings are not at the bottom of his restless nights.—*Hospital and Gazette.*

The Prevention of Conception.—The Detroit Medical and Library Association, recently discussed the justifiability of such procedure. The general contention was that the practice is proper and right, and it was also held that the prevention could be accomplished mechanically without injury to either the man or the woman. There were but few opposed to this view.

Died.—At Fife Lake, Grand Traverse Co., Mich., Dec. 3d, 1890, of meningitis, Dr. Harry B. Ludwig, aged forty years and three months.

Therapeutic Brevities.

High Heels and Movable Kidney.—Dr. Von Korányi (Berl. k. Woch.), has made observations on the influence of dress in cases of floating and movable kidney, and has also studied a large series of statistics prepared from the experience of others. He endeavors to show from these researches that high-heeled boots play a distinct part in causing displacement of the kidney, especially in conjunction with the heavy drag of clothes fastened above to the constricted waist; and fashion at present demands that these two pernicious errors in dress should be forced on her votaries. The elevation of the heels causes an increase in the lumbar curve. The obliquity forwards of the lower part of the loins is increased; the psoas major bulges forwards; the quadratus lumborum also bulges forwards, and is displaced outwards. This entails displacement of the kidney, even if that organ lie originally well back in the loins. The pushing forward of the kidney stretches the peritoneum immediately in front of it. This weakens the stretched serous surface, and, especially during exertion, the loosening of the kidney forwards and the pushing forwards of the peritoneum may easily end in complete dislocation of the kidney. When displacement is thus produced, the faulty clothing and boots aggravate the evil which they have set up.—*British Medical Journal.*

Chlorate of Potassium as a Preventive of Intra-Uterine Death.—A patient had borne two dead children in the eighth month, and finding herself again pregnant, and wishing for a living child, sought advice. No evidence of syphilis could be found in either parent, and there was no other apparent cause for fœtal death; but it was arranged that the patient should be seen every few weeks during her pregnancy for observation and advice. During the early months treatment was directed to the alleviating of nausea, vomiting, and constipation. Beginning at the end of the fourth month, chlorate of potash was prescribed in fifteen-grain doses three times a day. This was continued throughout the pregnancy, and the patient bore a large healthy boy at full term. Whether or not the chlorate was the efficient cause in this happy result, I am not prepared to say. I used it on the recommendation of Prof. Simpson, of Edinburgh, and of others who had thought it efficacious in such cases in which intra-uterine death is thought to be due to non-specific diseases of the placenta.—Dr. Green, in *Boston Med. and Surg. Jour.*

A Remedy for Baldness.—Dr. Morrow, of New York, recently called attention to the success which had attended certain experiments of his in this direction. He takes grafts from a healthy scalp by means of a cutaneous punch, and immediately transplants them into holes made in the diseased scalp for this purpose. Union is perfect within a week, and the hair grows profusely on the patches. There is no suppuration—no untoward result.

The Medical Press and Circular, commenting on the above, says: "The method has a wider field of application; in fact, its limits are those of the normal hairy scalp when this has become denuded. The happiness that would be created by an effective remedy for baldness would probably only be second to that conferred by a cure for consumption. It has been proved, moreover, that it is perfectly feasible to made grafts from a negro on to a white man and *vice versa*, so that, should the 'subject' be willing, a variegated assortment of hairs might be provided, thus varying the monotony of hue which Nature, for reasons of her own, has seen fit to impose."

Phosphide of Zinc in the Treatment of Fractures.—In a graduation thesis in Havana an author discusses the advantage of prescribing various forms of phosphorus for patients suffering from fracture. He carried out a series of experiments on dogs and fowls by breaking the femur by means of an osteoclast, and putting up the limb in splints. He then divided the patients into two groups, the first group being treated with phosphorus in various forms, the second left without medication. The result was that the callus was more abundant and firmer in animals treated with phosphide of zinc than in those treated with phosphate of lime, or than in those which were not treated at all. These results were confirmed by observations made in the surgical wards, where it was found that patients with fractures who took from a quarter to one-eighth of a grain of phosphide of zinc daily made exceptionally good and rapid recoveries. The only unpleasant effects produced by this treatment were that one out of the eighteen patients on whom it was tried suffered from slight diarrhœa, and in one the pulse became slow and hard—*Lancet.*

Facial Erysipelas. — Although it is well known that erysipelas of the face often arises from a point of infection inside of the nose, it very often happens, as Lehrnbecher has pointed out, that in the treatment of the disease little or no attention is given to the nasal cavity. It is sometimes wonderful what a thick, bloody, bad-smelling pus can be washed out of the nostril. A nasal douche of three-per-cent. boracic acid solution should be given every three hours, until the cavity appears to be perfectly sterilized, after which, to prevent drying of the mucous membrane, tampons with boracic acid ointment should be inserted. With these precautions the author has found that the duration and severity of the disease are much diminished. He applies nothing to the skin except cotton-batting or an oil compress.—*Boston Med. and Surg. Journal.*

Rhus Aromatica in Enuresis.—W. M. Powell reports sixteen cases, and says that in all he excludes phymosis or an adherent prepuce as the cause. It is well to commence with minute doses, gradually increasing a drop or two each day so as to prevent any gastric disturbance. Much stress should be laid upon diet and general regimen. The quantity of drink should be restricted. Very little meat should be allowed, owing to the effect it has of acidifying the urine. The child should have

plenty of fresh air and exercise; and should be given every morning a cool, or even cold, sponge-bath, with a tablespoonful of sea salt added. The body should then be briskly rubbed with a moderately coarse bath-towel, especially in the region of the spine.—*Annals of Gynæcology and Pediatrics.*

The Gastric Juice in Diabetes.—In a long article on the condition of the gastric juice, saliva, and perspiration in diabetes, Dr. Ponomaroff details a number of observations which led him to dispute the assertions of some previous observers—*e. g.*, Heller and Frick, who believed that they had detected sugar in these secretions. With regard to the gastric juice, Dr. Ponomaroff points out that where this is obtained by making the patients vomit, what obtained is not the gastric juice alone, but an admixture of that with a certain quantity of bile. This generally contains sugar, and therefore vitiates the result. When the œsophageal tube is used, and gastric juice free from bile is obtained, there is, he states, never any sugar in it.—*The Lancet.*

A Simple Method of Removing a Needle.—Dr. Charles Steele, of Clifton, mentions in the British Medical Journal, the case of a young girl who got a needle in her heel, and as it broke it could not be extracted. He directed her to wear a large thick corn-plaster round the spot, with a little wet cotton-wool in the centre, and to tread freely on the heel. Within a week afterwards the needle protruded, and was easily withdrawn.

Hæmorrhoids.—

℞ Cocaine muriate, 1.30 grammes.
Morph. sulph., 0.35 gramme.
Atropiæ sulph., 0.25 gramme.
Acid. tannic, 1.30 grammes.
Vaselin, 32.00 grammes.
Ol. rosæ, q. s.

Apply after each evacuation of bowels; bowels to be kept in soluble condition.

Asthma Powder.—

℞ Pulv. stramonii fol., 32.00 grammes.
Pulv. belladonnæ fol., 32.00 grammes.
Pulv. potass. nit., 4.00 grammes.
Pulv. opii 1.00 gramme.

Burn a little and inhale the fumes.

Flatulent Dyspepsia.—Huchard treats with:

℞ Aq. chloroform, 38.00 grammes.
Aq. dest., 32.00 grammes.
Aq. menthæ pip., 8.00 grammes.

A teaspoonful before or after meals.

Gunpowder Stains of the Face may be removed by painting with: Biniodide of ammonium, distilled water, equal parts; then with dilute hydrochloric acid, to reach the tissues more deeply affected.—*Revue de Therapeutique.*

Medical Progress.

OTORRHŒA, OR INFLAMMATION OF THE MEATUS OF THE EAR.—Otorrhea is a word derived from οὖς ὠτος, the ear, and ῥεω, to flow. I do not like the word or its meaning. The disease or affection is an inflammation of the meatus, with a characteristic discharge denoting its origin; it only becomes "otorrhœa" when it becomes "chronic," with perforation of the membrana tympani, called by many specialists "perforative otorrhœa," each variety requiring its special treatment, and in consequence of care not being taken to diagnose the characteristic variety of the discharge, the disease has become an opprobrium to most practitioners. The lengthened course of the disease is the main cause, however, of numbers of persons becoming deaf, besides the innumerable perforations of the membrana tympani, which may be seen by anyone who makes a specialty of ear affections. Now, in the first instance, there may be simple catarrh of the meatus with a muco-purulent discharge; what I would call an exanthematous inflammation following scarlatina or some eruptive disease, is a most virulent and destructive form of the affection; then tubercular otorrhœa, the tubercle bacillus being frequently found when properly searched for. Syphilitic otorrhœa was first described by Dr. Woakes. The diabetic ear, although so sudden in its attack and destructive, is really otitis media. Scrofulous inflammation is very intractable, but yields to specific combined with constitutional treatment; yet one without the other is of no utility. "Otorrhœa" really caused by otitis media, and discharging through a perforated tympanum, is not a discharge from the meatus, but exudes into the meatus, which should be treated of as a variety of the disease is spoken of. The inflammation from dentition and stomach derangement in children is one of the simple varieties of the disease, yet one of the class most neglected by mothers, as they are under the impression that the discharge will cease without remedial measures—a most delusive impression, and one that it is the duty of every practitioner to endeavor to remove, as, if allowed to go on, it is certain to destroy the tympanum or cause perforation. Some practitioners use a disinfectant, and, if one is used, my preference for the ear is resorcin. I can refer to notes and find many cases where carbolic acid has been used with destructive changes. In my opinion nothing is more irritating to an inflamed meatus and tympanum than this preparation. Really no disinfectant is required until there is perforation of the drum, when the treatment will come under that heading. When the case becomes chronic, or an old neglected case comes under notice, it becomes a question whether the dry plan of treatment is to be preferred; if so, the following mode should be adopted: Take an ear probe, wrap with a piece of wool, insert in the meatus, press it down with the flat end of the probe, then extract. This method clears the meatus, without any pain, of all discharge, which is a great desideratum. The first day disinfect the meatus with a little iodoform, insufflated by Kabinsky's inflator; use on the second and following days with the following powder: Talc (creta Gallica), 3 drachms;

boric acid, 1 drachm. These powders require careful mixing in a mortar; the boric acid cannot be rendered sufficiently fine without first being mixed with about one drachm of the talc, which when thoroughly pulverized is mixed with the remainder of the chalk. This is a very useful formula, and one that I have used for years. If this does not succeed, at the end of a week, I use creolin dusting powder. As for the sozoiodol preparations, I cannot say they have proved very useful in my hands. In the perforative variety of otorrhœa the same precautions are necessary in cleansing the meatus daily, but they cannot be treated on the dry plan. A good lotion is the following: Resorcin, half a scruple; extract of opium, one drachm; chloride of zinc, one grain; water to one ounce and a half. A little to be syringed into the ear each morning.

In the treatment of the simplest variety of inflammation of the meatus in children, nothing is so effective as a calomel purge, and a little belladonna and chloroform liniment, equal parts, smeared over the mastoid region to relieve the pain, which is sometimes very distressing. If it goes on further, and there is a muco-purulent discharge, wipe out daily with a little piece of wool wrapped round an ear probe, then paint the meatus with tannate of glycerin.

In exanthematous inflammation after any of the zymotic diseases, as scarlatina, measles, etc., we come to a very intractable form of the affection, which requires great care and attention, with perseverance. A very good lotion is: Alum iron, 3 drachms; sulphate of zinc, 2 drachms; water to 8 ounces. First syringe out the ear with warm water, dry it thoroughly with cotton wool so as to wipe out all discharge, then wash out with the lotion. This must be done by the medical man; it is no good trusting the parents of children to do this thoroughly. I always use this preparation of iron, alum being so much more astringent than the potash or ammonia preparations, but in all these cases I find the great object is to see that the Eustachian tube is thoroughly open; either use a Politzer's bag or the catheter, if necessary, once a week. The syphilitic and tubercular otorrhœas must be treated upon the same principles, but with the addition of strict hygienic and constitutional treatment.—J. Swift Walker, M.D., F.R.C.S., in the London *Lancet.*

Microscopical Examination of Semen.—The amplification used should be not less than 400 or 500 diameters, or say a 2″ eye-piece and a $\frac{1}{8}$″ or $\frac{1}{10}$″ immersion objective, or a 1″ eye-piece and a $\frac{1}{4}$″ or $\frac{1}{5}$″ dry objective. It is true that the spermatozoids may be seen with much less amplification (a 2″ eye-piece and a $\frac{1}{2}$″ or $\frac{1}{3}$″ objective showing them quite plainly, but the determination of the mere presence of the elements even in great numbers is not sufficient. We must in doubtful cases inform ourselves as to whether those that we find are possessed of their physiological properties, and especially the mobility necessary to penetrate the uterine cavity. De Sinety states that in three cases examined by him (married men who had no children) the spermatozoids, though present in normal quantity, became immobile almost immediately after their ejaculation.

Of course, this sort of an examination presupposes the freshness of the semen. The sooner that it can be placed under the instrument after ejaculation the better. A tentative course is necessary in most cases. The patient is given a couple of clean, ringed slips and cover-glasses, and is told that on the first opportunity he shall place a drop of semen on the slip and immediately apply the cover-glass and bring it to the examiner. The advantage of the ringed slip over the plain one is, that the semen may be kept fluid and normal therein for several hours, whereas the rapid drying around the edges on the plain slip causes the cover-glass to be drawn down very close to, and in fact almost into contact with, the surface of the latter, thus destroying all possibility of motion on the part of the spermatozoids. The slip should be examined at once. If the spermatozoids are found to be absent, no further examination is necessary. If they are found to be present, and normal as to quantity, it may be necessary to investigate further to determine the motility and vitality of the elements. In such cases circumstances must be the guide as to the method of obtaining a fresh specimen. It may be remarked here, that when the semen is preserved in ice, the movements of the spermatozoids continue much longer than when it is kept at normal temperature. It has been claimed (see Proceedings of the American Society of Microscopists for 1886) that when put into a small tube and the latter enclosed in a block of ice, the movements last for several days.

The exceptional cases of aspermatism are those which may be called "physiological," in the sense that the absence is temporary and due to excessive coitus. In these cases the ejaculated matter comes entirely from the prostate (as shown by Feuerbringer in the Zeitschrift für Klinische Medicin, 1881, page 287), and is devoid not only of spermatozoids, but of the gelatinous hyaline matter secreted by the spermatic vesicles.—F. L. J., in *St. Louis Med. and Surg. Journal.*

Analysis of Koch's Lymph.—An analysis of Koch's lymph by Professor Schnitzler of Vienna, gives the following results (Lancet): It is a syrupy, slightly foaming liquid, of brown color, its aqueous solutions showing a greenish fluorescence. In odor it resembles elder yeast, or leaven, combined with a sweet aromatic admixture such as honey. If slowly heated, the smell of yeast gives way to an agreeable odor resembling fruits; on further heating, the smell becomes like that of fresh bread crust, but without the acid character of fruit. If the heating of the substance is continued, the smell assumes the empyreumatic character of that assumed by burning albuminous matter and carbonizing horny substances. Only an extremely small quantity of ash (under one per cent.) was obtained. The liquid shows a neutral reaction. Some of the liquid was diluted with water and subjected to various tests. By adding diluted acetic acid it becomes slightly opaque, by which the presence of a small quantity of mucin is indicated; by further adding potassium ferrocyanide, the opacity of the liquid is increased, showing the presence of albumen; but this reaction is too feeble to indicate the amount of the active

principles in the lymph. On the other hand, the biuret reaction characteristic of peptones is very strongly marked. The tests for cyanogen compounds gave perfectly negative results, and the assumption that Koch has been using cyanides of gold or prussic acid seems therefore completely erroneous, as no metals could be detected in the liquid. Traces of reduction were observed after treating the liquid with Fehling's solution, but the presence of sugar among the reducing substances could not be confirmed. Sulphur and phosphorus in an organic form proved to be absent. As only a small quantity of the lymph could be used for chemical examination, it was impossible to shake the liquid with ether and alcohol for the purpose of separating the alkaloids, if present, from the albuminoids; but the reagents which reveal the presence of alkaloids and ptomaines even when mixed with albuminoids—*e. g.*, acid bichromate of potassium—failed to give a reaction, so that the absence of alkaloids and ptomaines may be taken for granted. It seems, therefore, that, besides the peptones, the principal active substances contained in Koch's lymph belong to that not yet chemically defined class of the protein bodies called toxalbumins, globulins, or enzymes, which play such an important rôle in all fermentative processes, from the chemical changes produced by common yeast in the products of the vegetable kingdom up to the coagulation of the blood in animals.

A New Method of Treating Aneurysms.—Dr. William Macewen of Glasgow has recently added another to the long list of procedures intended for the relief of aneurysms. He thinks that former methods, such as Galvano-puncture, introduction of wire, catgut, etc., have all been deficient, in that they produced only red thrombi, which can be absorbed or washed away. He aims, therefore, to produce in the aneurysms a white, hard thrombus. This he does by introducing a long, sharp needle, and scratching the internal surface of the tumor, thus producing a proliferation of leucocytes. His description of the technique of the operation is as follows:

"The instrument employed is a pin of sufficient length to completely transfix the aneurysm, and to permit of manipulation within it. Its calibre ought to be as fine as possible, the strength being only sufficient to penetrate the coat of the aneurysm and the intervening tissues. This cylindrical pin tapers to a point, like an ordinary sewing-needle, and has on its opposite extremity a somewhat rounded head. As the coats of aneurysmal sacs vary in thickness, these pins must be made of various calibres, as those which may pass readily through one aneurysmal sac may not pass through others with thicker walls. They ought also to be finely polished, not only to facilitate their introduction, but to help to render them aseptic.

"Before performing the operation, the skin over the aneurysm ought to be carefully cleansed and rendered aseptic. The aseptic pin ought then to penetrate the sac and pass through its cavity until it comes in contact with the opposite side; it ought to touch and no more. Then one of two methods may be employed: Either to move the pin over the surface of the inner wall so as to irritate its surface, or to allow the impulse of the blood current playing on the very thin pin to effect the same object. If the wall penetrated by the pin on introduction be dense, the former method will be preferable, as the force of the blood-current produces such a feeble action on the thin pin as to be insufficient to move it to and fro while it is firmly grasped by the dense wall. After acting thus for ten minutes at one part, the point of the pin, without being removed from the sac, ought to be shifted to another spot, and so on until the greater portion of the internal surface opposite to the point of entrance has been touched; this ought to be done in a methodical manner. A single insertion of the pin through the aneurysmal sac into the interior may be sufficient to enable the point of the instrument to come into contact with the greater part of its internal surface, but in some cases puncture from various sides of the external wall may be necessary, so as to reach portions of the tumor which cannot be attacked from the first puncture. While the pin is in the aneurysm, it is surrounded by a portion of aseptic gauze, or moistened with an antiseptic solution. When it is withdrawn from the aneurysm, the part ought to be covered with moist antiseptic dressing, preferably a watery solution of carbolic acid, which ought to be maintained for several days. The period a pin may remain in an aneurysmal sac without doing damage, is perhaps dependent on the individual and the state of the aneurysm, but it ought never to exceed forty-eight hours. It is questionable whether all the necessary advantages derivable from the irritation of the wall of the aneurysm could not be produced within a few hours."

Dr. Macewen says that his method is different from the old acupuncture procedure. He reports four cases of abdominal and thoracic aneurisms, with a cure of three.—*Med. Record.*

Nicotine Psychoses.—Dr. Schroff, in Weiner Med. Press., says: The primary effect of tobacco upon the system is excitation, the secondary, depression. The entire muscular system is affected, also the heart and the vasomotor system. According to Schroff, the disease called *nicotinosis mentalis* is a primary insanity following a regular course and with distinctive symptoms. The chief characteristics are feeling of extreme debility and impotence, with early hallucinations, delusions, and suicidal tendencies. The patient feels ill, restless, is easily excited, sleepless, indifferent to usual occupations, and more or less depressed. Following these are hallucinations of sight, hearing, and of general sensation. Much palpitation and pain in heart. Later in the disease his delusions become more exaggerated. He has visions of angels, heaven, and hell; is excitable and boisterous. The paroxysms of excitement are periodical, lasting two weeks or more, with intervals of quiet. In the beginning of the disease the patient is gloomy and restless, later, and as it becomes chronic, he is more quiet and feeble minded. Patients sometimes recover in the early stages, but never in the later ones.

Dr. Kjellberg, Upsala, Sweden, has investigated the effects of tobacco in inveterate

smokers and finds that they are distinctly injurious. *Nicotinosis mentalis* is a primary disease which belongs to the group of mental intoxications. It has a stage of about three months, characterized by general malaise, uneasiness, insomnia, depression, often of a religious tendency.

After the disease is established there are are three stages:

1. Hallucinations, fixed ideas with tendency to suicide, depression, attacks of fear and outbursts of anger. The patient talks little, but logically; the nutrition is impaired.

2. Exaltations of a pleasant type; after two or three weeks depression again followed by a slight maniacal condition.

3. The intervals are shorter, the patient very restless; the intellect and memory impaired. The patient observes what is going on, but is taciturn and indifferent.

Prognosis good before third stage, but after that, poor. Treatment mainly abstinence from the use of tobacco, with nutritious diet.

THE EMPLOYMENT OF SPANISH MOSS (TILLANDSIA USNEOIDES) AS A SURGICAL DRESSING.—The holding of raw surfaces in accurate apposition, the abolition of dead spaces, and the exercise of physiological pressure over a wounded area, are essential to rapid healing. To abolish dead space and exert the proper amount of pressure is not always easy, and is largely dependent on the material used as a dressing. During the early spring of 1889, when on a plantation in Louisiana, it occurred to me that the moss which hung from the trees would be a soft and elastic wound-dressing, so I brought some home with me. I found later that it could be obtained in a sufficiently clean condition at any upholsterers's, and since the date mentioned I have continued to use it with great satisfaction.

The moss, which hangs in festoons from the branches of trees throughout the Southern States, is of the pineapple family—sub order, *Tillandsia;* species, *usneoides.* Stems thread-shaped, branching and pendulous; leaves thread-shaped; peduncle short; one-flowered. (Gray.) On the trees it is of a gray color, very curly, and is prepared for commerce by being dried and beaten so as to free it from bark. After this process it appears to consist of black, elastic, tough fibres, resembling curled hair.

I usually have the moss made into cushions or pads of about six inches by four inches, and two inches thick, cheesecloth being the material employed as a covering. The pads have been made of other dimensions; in one or two cases of mammary extirpation with extensive axillary dissection, pads large enough to envelop nearly one-half of the thorax were employed, but I find no advantage in the use of such large cushions, and the size given has proved very generally applicable.

The pads are adjusted outside of a gauze-and-cotton dressing, and the bandage applied snugly, the elasticity of the moss serving to distribute the pressure evenly. About the chest wall, as after a deep axillary operation, I have been especially pleased with the pads. A fact of a good deal of importance is that when exposed to the action of moist heat in a sterilizer, the moss remains elastic, so that the cushions are prepared with the other dressings for each operation.—Louis McLane Tiffany, M. D., in *Phila. Med. News.*

EFFECT OF LIGHT ON ACUTENESS OF VISION.—Inasmuch as the battle between gas and electric lighting is still on, it will not come amiss to contrast the hygienic qualities of the three principal sources of light,—daylight, gaslight, and the electric light,—with regard to their influence upon the acuteness of vision. A paper by Dr. von Pettenkofer (Munch. Med. Woch.) considers the question in a very practical manner. By gaslight the acuteness of vision is lessened by about one-tenth as against daylight, while it is increased with the electric light, especially as regards the distinction of colors. The effectiveness of the electric light, however, is much diminished by fogs, but this can be easily offset by increasing the intensity of the light. The glare of the electric light finds many objectors, but this can be avoided by means of a glass bell, lessening the brightness of the light about twenty per cent. The brightness of the white and violent rays of the electric light, is best overcome by a yellow shade; the yellow and red of gaslight, by a blue shade. In using gaslight it must be kept at a certain distance, on account of the immense amount of heat evolved; while in using the electric light it may be brought near by, the disagreeable intensity of the light being lessened as much as necessary. According to the investigations of Renk, a gas jet furnishing as much light as an Edison burner, will give off twenty times as much heat as the latter. The Munich Court Theatre was the scene of some interesting experiments to prove this point. The theatre, while empty, was lit up with gas, and in an hour the temperature in the gallery was raised from 16° to 27° R,; with electric lights of the same power the change was from 16° to 17°. When the house was filled the difference was not so great, for human beings also produce a great deal of warmth; with gas the final temperature was 22.8° R., a distressingly warm temperature: while with electricity the last temperature was 17.6° R. (72° F.), a temperature which is easily borne.—*Weekly Medical Review.*

EXAMINATION OF SPUTUM FOR TUBERCLE BACILLI. — Dr. H. Kühne (Centralblatt für Bakt. und Parasitenkunde), after refering to the fallacies and difficulties with which the search for tubercle bacilli in sputum from phthisical patients is surrounded, describes a new method of staining the bacilli. When it is difficult to spread out the sputum on a cover glass, he uses a concentrated solution of borax, to which at least an equal quantity of sputum is added. The mixture is shaken up in a suitable vial, or is worked up in a mortar, after which it is easily spread in a thin layer over the cover glass. Nummular sputa from cavities may be broken down by a watery solution of carbonate of ammonium; this has the advantage that it is partially volatilized as soon as the cover glass is heated, and what remains is broken up by the action of the acid. An equable layer on the cover glass being obtained, the albumen is coagulated by careful heating over

a flame, after which the specimen is stained in Ziehl's fuchsin solution for five minutes, the color completely removed with a 30 per cent. solution of nitric or sulphuric acid, and the specimens washed in water and dried. In order to obtain a contrast stain, two or three drops of a concentrated solution of picric acid in anilin oil may be added to a watch glass containing pure anilin oil; a drop of this, placed on the slide before the cover glass is lowered into position, gives a sufficiently yellow contrast stain to cause the red tubercle bacilli to stand out very prominently. They may be examined with a magnifying power of from 69 to 100, and where they are in great number, as is the rule in "cavernous" sputa, they appear under still weaker magnifying powers as particles of red dust on a yellow ground. To make a permanent preparation, Kühne recommends that the anilin oil be driven off by means of his hand blower, and that the specimen be mounted in Canada balsam. By this method the tubercle bacilli only are stained.

Responsibility in Hysteria.—In a rather lengthy paper in the Revista Sperimental, XVI, III, L. Bianchi reviews the subject of responsibility in hysteria, and reports several cases of interest. He considers that irresponsibility should be recognized as existing in those conditions in which the hysterical psychosis runs through the phase of mental disorder in its various phases—in which the change of character, the abnormal manner of perception and conception of the external world, the profound changes in the affective life, the intercalated attacks of ecstasy, lethargy, somnolence, etc., all indicate profound change in the whole psychic life of the individual. Another hysterical condition in which absolute irresponsibility may be imputed, is that of the cases of so-called double consciousness such as have been reported by Azam. Another class of cases has not received as much attention from medico-legal writers. These are hysterical individuals who suffer from decided somatic symptoms (such as paralysis, contracture, hemianæsthesia, etc.), and who also during the intervals between their occasional hysterical convulsive attacks, present a character with complex psychic symptoms that is decidedly abnormal and peculiar, and which we can consider as one degree of that condition which in its more complete and classic form we recognize as double consciousness. The author reports one of the cases of this class that came under his observation, in whom with the improvement, under treatment, the individual became almost another person from what she had been before.

A fourth order of cases are those who present from time to time the symptoms of grave hysteria (convulsions, catalepsy, hemiplegia, etc.), but who in the intervals show no disturbance whatever, but attend to their business. These cases cannot be judged alike; each requires an individual study to determsne the degree or kind of responsibility.

Possible Cure for Tuberculosis.—Dr. Samuel O. L. Potter, of San Francisce, Cal., says: I have long held the opinion that the only efficient microbicide for pulmonary disease of microbe ætiology, is to be found among the volatile anæsthetics, of which ether and chloroform are the most familiar members. Some personal experience with chloroform vapor as a destroyer of micro-organisms in cavities like the antrum, to which it is almost impossible to gain access without a surgical operation, first turned my attention in this direction. I have already obtained some very valuable results from the use of a mixture of the vapors from several anæsthetics, but so far have found the vapor of chloroform to be the most deadly to the ætiological factors of the purulent catarrh of mucous membranes of inaccessible cavities, epidemic coryza, hay-fever, and similar affections.

I have made some experiments, also, with the same agents, in order to test their action upon the bacillus tuberculosis; and while I am not yet prepared to publish the result of my work, I feel convinced that this bacillus may be destroyed, and its victims saved, by the continued use of chloroform inhalation, systematically carried on, day by day, by means of suitable apparatus, and with the care necessary to prevent injurious results or accidental poisoning. There is no need for the anæsthetic action being induced; but the inhalation can be kept up continually for several hours daily, and maintained short of general anæsthesia.

I intend to devote myself this coming winter to the study and development of this subject, and hope to be able to give a detailed account of my experiments before many months have gone by. In the meantime I will be very glad if any members of the profession will communicate to me the results of any experience they may have with these agents used by inhalation for the destruction of pathogenic micro-organisms.—*College and Clinical Record*, Nov., 1880.

Treatment of Enuresis Nocturna in Children.—Dr. Van Tienhoven, Director of the Krankenhaus, in Haag, advances an enlightening theory on the cause of this troublesome condition appearing in otherwise perfectly healthy children; as a result of his deductions he recommends the following successful therapeutic measure. The bladder, performing its functions well during the day, has no power to hold the urine during the night and consequently relieves itself of it. The question now is, is it the detrusor urinæ or the sphincter vesicæ muscle, or both, the one perhaps less, the other more, involved? Dr. Van Tienhoven believes that the sphincter muscle is not strong enough to retain the urine that has collected during the first part of the night; that it permits the urine collected before the orifice of the urethra to pass into the prostatica urethra and at this point, through reflex action, the detrusor is stimulated, and under its action the entire contents of the bladder expelled.

This conviction suggested to Dr. Van Tienhoven the idea that children suffering from enuresis should sleep with the pelvis elevated. Experiments on the cadaver prove that after elevation of the pelvis the bladder will hold a considerable amount of urine before the height of the orifice of the urethra is reached. Fourteen cases, treated according to this theory, without other therapeutic means, were cured

in a short time. The necessary elevation is obtained by raising the foot of the bed to a plane of 45 degrees. The children must go to bed with an empty bladder and without having taken liquids for some time before retiring. They sleep well in the elevated position and awake without trouble of any kind. *Correspondenz—Blatt fuer Schweizer Aertze*, Sept. 1890.

In Gastric and Intestinal Fermentation.—Prof. Bouchard recommends the following in cases of gastric and intestinal fermentation as found in cases of gastric dilatation, in poisoning by decayed or diseased meats, in typhlitis, dysentery and typhoid fever, and in diseases in which there is insufficient renal secretion:

℞ Beta naphthol, finely pulverized, ½ ounce.
Salicylate of bismuth, 2 drachms.
M.

Divide into thirty wafers, and give from three to ten daily.

Professor Dujardin-Beaumetz recommends the following:

℞ Pure bisulphide of carbon, 35 grains.
Essence of peppermint, 30 drops.
Water, 15 ounces.

The mixture is placed in a large bottle, shaken, and allowed to settle: 8 to 12 tablespoonfuls are to be given daily in half a tumblerful of water and wine, or in milk.

Dr. Huchard recommends:

℞ Salicylate of bismuth,
Salicylate of magnesium, } ää 75 grains.
Benzoate of sodium,
M.

Divide into twenty wafers, one of which is given before each meal.

Medication per Vaginam.—Dr. A. Lapthorn Smith calls atttention to the absorption of drugs from the vagina. He has noted this when using iodine, iodoform, and corrosive sublimate. With the latter, the *post partum* introduction of a pint of 1 to 1,000 solution was followed by sudden diarrhœa, collapse, and suppression of urine. He inclines to the belief that this absorption takes place even when the membrane is unbroken. He says: "I have now been employing the local administration of bichloride of mercury in doses of one-tenth of a grain every three or four days, on a boroglyceride tampon, during the last two years, about five hundred times in about fifty cases of vaginitis, endometritis, salpingitis, ovaritis, and pelvic peritonitis, and I feel sure the duration of treatment, before relief has been obtained, has been very much less than was the case before I adopted this method. Exactly how much of such success is due to the bichloride alone, I am unable to say, for the simple reason that, at one time or another of the treatment, in every case, I employed other remedies and measures in addition to it. One of my reasons for attaching so much value to the bichloride of mercury employed in this way is, that nearly every one of the diseases above mentioned is due more or less directly to septic absorption, and that the more or less constant production of septic matter is necessary to keep up the disease."—*Philadelphia Times and Register.*

Hypodermic Use of Arsenic.—Dr. H. N. Moyer, of Chicago, read a paper before the Mississippi Valley Medical Association, upon this subject. The author says he has carried the use of arsenic given by the mouth to the utmost bounds of prudence, until the eyes were puffed and vomiting almost incessant, and had then continued the use of arsenic in large doses by hypodermic injections with the result of cessation of all gastric symptoms, and the cure of the disorder. In a case of chorea in a girl, the patient had been placed immediately upon the hypodermic use of arsenic beginning with three minims of a five-per-cent. solution, and increasing every second day, until three weeks after beginning the treatment she was receiving 13 minims of the solution at each injection, with an amount of arsenic equivalent to about 36 minims of Fowler's solution. At the ninth injection she was discharged cured. The author considers Fowler's solution valuable in various forms of glandular enlargements. The action of arsenic given hypodermically is certainly better than when taken by the stomach.

Nervous Syphilis.—Dr. Julius Althaus read an article with this title before the "Berlin Med. Congress." He considers that the most important remedy is the periodical and long-continued hypodermic injections of small doses of a non-irritant insoluble preparation of mercury. He recommends what he terms the "carbolized mercurial cream," a preparation of carbolized oil. Perfect homogeneity of the mass, greater stability, painless injection, absence of swelling and abscesses, great efficiency in truly specific lesions, and absence of the risk of stomatitis and dysentery, if a certain dose is not exceeded, are among some of the advantages of the preparation.—*Lancet.*

Gold Hypodermic Injections in Phthisis.—Dr. J. Blake White read a paper before the Southwestern Medical and Surgical Society, Wednesday evening, in which he described some remarkable effects from the use of the gold preparations administered hypodermically in tubercular affections, particularly external manifestations, and in persistent eruptions, especially of a leprous character. A committee was appointed, consisting of Doctors J. Lewis Smith, Simon Baruch, and Frank Grauer, to look further into the subject with Dr. Blake White. The paper will appear in a future issue.—*N. Y. Med. Record.*

Cancer Bacillus.—Dr. Russell, of the Edinburgh Royal Infirmary, thinks he has discovered the micro-organism of cancer, which he maintains he has traced to a fungus of the yeast type. He is still pursuing experiments in this department of research.

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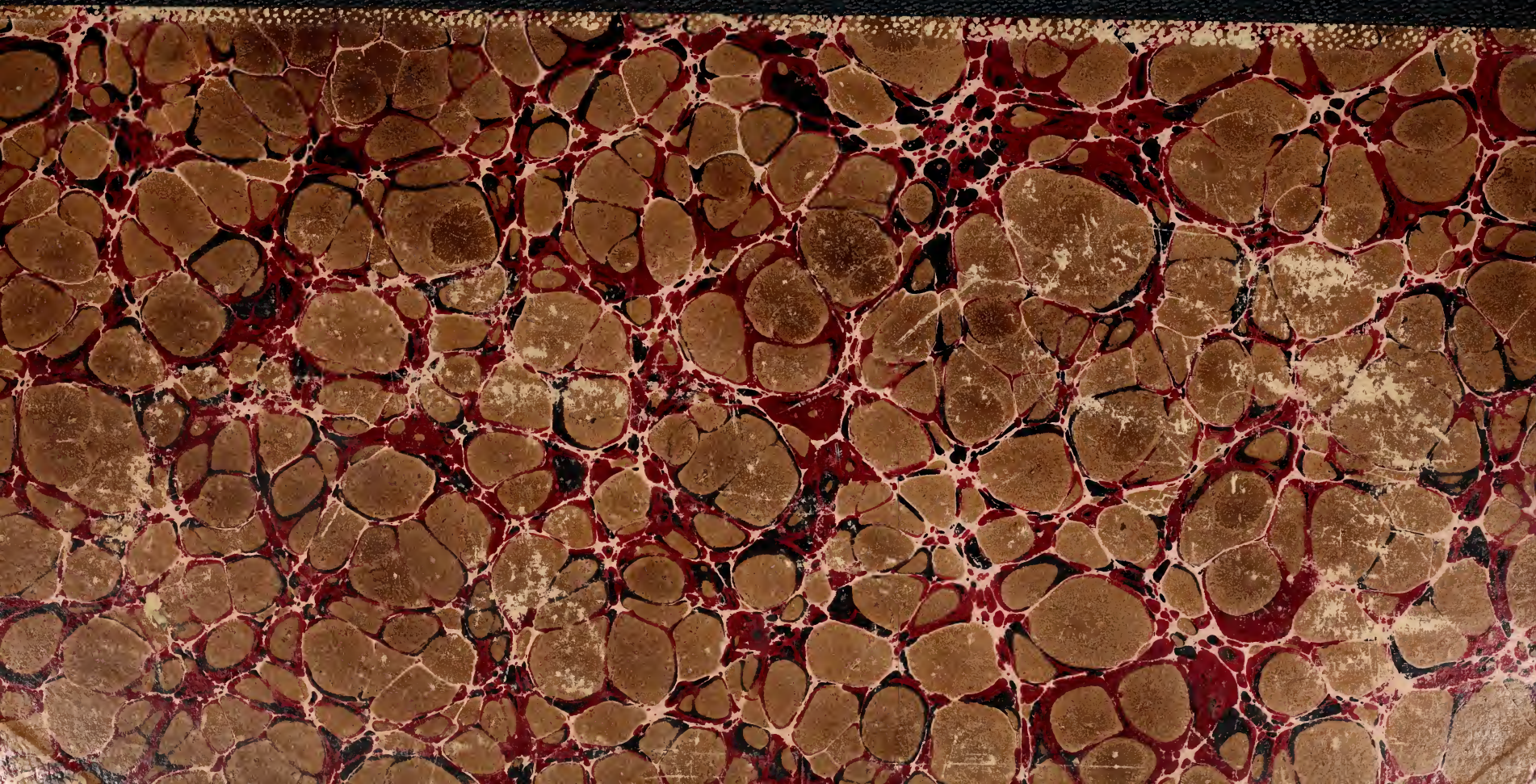
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